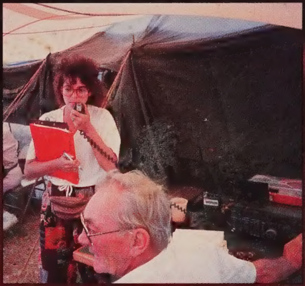
DAYTON

Hamvention '93



APRIL 23, 24, 25 1993

HARA ARENA
CONFERENCE AND
EXHIBITION CENTER
DAYTON, OHIO

SPONSORED BY
THE DAYTON AMATEUR
RADIO ASSOCIATION

... More Than a Hobby!

INNOVATION is In! "OVER" is Out!

1-800-999-9877 and the W21AT

ICOM's 1993 product line is going to be one innovation after another. To keep up with the breakthroughs, you'll need the ***I-COM LINE:*** your hotline for new radio info. Use it *now* for the latest on the W21AT, featuring dazzling duplex operation!

IC-W21AT FM TRANSCEIVER
ICOM
POWER
PALM FRIENDLY DESIGN
BATTERY PACK BP-131

The NEW! *I-COM LINE*

Telephone Based Information!

Our I-COM LINE is free, it's fun, and it's the best way ever of making intelligent radio buying decisions.

Here's all you do:

1. Dial **1-800-999-9877**

2. Leave your name, address, and the name of the product you're interested in – in this case, the W21AT.

Within 24 hours, we'll send you REAL info about the W21AT: how and why it was designed, spec sheets, field tests, reviews – everything you need to decide if this is the radio for you.

Give it a try! See how easy it is to communicate with the world leader in amateur radio communications.

I-COM LINE: *uniquely* ICOM!

The NEW! *IC-W21AT*

Telephone Style Innovation!

Full-duplex operation has always been possible, but not very practical.

ICOM's changed all that. The W21AT is the *first and only* handheld to give you full duplex that works like a telephone.

"Over" is over!

We added a second microphone, unique electronics, and wrapped it in the sleekest body ever. The W21AT *looks* as good as it performs.

We added Single Band Dual Receive (receive 2 signals on the same band simultaneously), and Cross Band Repeat (receive a signal on one band, retransmit it on another).

And "smart" memory for easy recall of preset functions.

And automatic sensing that matches output power to incoming signal strength to extend your on-air time. And more!

How much more? Call the I-COM LINE!

The IC-W21AT: *uniquely* ICOM!

(also available: the IC-W21A, without the DTMF pad).

ICOM's HT Family – also available on the ICOM-LINE!

P Series
P2AT - 2M
P3AT - 220MHz
P4AT - 440MHz

SRA Series
2SRA - 2M/WideBand Receiver,
4SRA - 440MHz/WideBand Receiver

SAT Series
2SAT - 2M
3SAT - 220MHz
4SAT - 440MHz

GAT Series
2GAT - 144MHz
4GAT - 440MHz
12GAT - 1.2GHz

OAT Series
02AT - 2M
03AT - 220MHz

Dual Band
W2A - 2M/440MHz
W21 - 2M/440MHz
X2A - 440MHz/1.2GHz
24AT - 2M/440MHz

AT Series
2AT - 144MHz

ICOM America, Inc., 2380 116th Ave. N.E., Bellevue, WA 98004 All stated specifications subject to change without notice or obligations. All ICOM radios significantly exceed FCC regulations limiting spurious emissions. W21A1292

ICOM Experience the Quality ©

See us in Booth 033 - 037 We are a Hamvention Prize Donor

FT-530
Dual Band Handheld

- **Frequency Coverage:**
  2-Meters 130-174 MHz RX
  140-150 MHz TX
  70 cm 430-450 MHz RX/TX
- 82 Memories (41 per band)
- 4 TX Power levels
  w/FNB-25: 2.0, 1.5, 1.0, 0.5W
  w/FNB-27: 5.0, 3.0, 1.5, 0.5W
- Dual in-band receive feature (V/V, U/U or V/U receive operation)
- DTMF Paging and Coded squelch included.
- AOT – Auto On-Timer with built-in clock
- ABS – Automatic Battery Saver (Super battery life, each band can have separate battery saver)
- Built-in VOX
- IBS – Intelligent Band Select (provides automatic TX band select on scan stop)
- Built-in CTCSS with dual decode
- ATS – Automatic Tone Search (displays incoming CTCSS frequency)
- Back-lit keypad and display with time delay
- Built-in cross-band repeat function
- APO – Automatic Power Off
- 5 Watts output w/ FNB-27 battery or 12 VDC
- 2 VFO's for each band
- **Accessories:**

NC-42	1-hour Desk Charger
FNB-25	600 mAh Battery (2 watt)
FNB-26	1000 mAh Battery (2 watt)
FNB-27	600 mAh Battery (5 watt)
FBA-12	6 AA Cell Holder
CSC-56	Vinyl Case w/ FNB-25
CSC-58	Vinyl Case w/ FNB-26/27
E-DC-5	12 VDC Adaptor
YH-2	Headset for VOX
MH-12A2B	Speaker Mic
MH-18A2B	Lapel Speaker Mic
MH-19A2B	Mini Earpiece Mic
MH-29A2B	LCD Display Mic with Remote Functions
MMB-54	Mobile Mounting Hanger

YAESU
146.94
447.55
FT-530
DUAL BAND FM TRANSCEIVER

"Look at this new FT-530! Simultaneous receive on VHF and UHF, automatic "on" timer, 82 memory channels…"

"Yaesu did it again!'

Bright minds lead to brilliant "firsts."

That's right, brilliant innovative first-time ever features which make the FT-530 our most exciting HT addition.

Exclusive break-through features, too. Like flexible in-band dual receive. Not just V/U receive. With the FT-530 you can listen to two, 2-meter signals at the same time!

Another remarkable first is the Auto On-Timer℠. Here's how it works. Choose the hour you'd like the radio to begin operating. For example, set the time for the morning, then wake up to your favorite net. What's more, the built-in 24-hour clock displays the time when the radio is off.

First out with 82 memory channels included, not an option; a real plus for storing all your favorite frequencies. With this HT, just open the box and QSO.

There's a lot of other terrific features too, such as built-in VOX and DTMF paging. And, since we know you'll find the FT-530 indispensable, we've included an automatic battery saver and voltage display – a powerful handful of exclusive features!

Be the first at your dealer's door to buy one, and the first to show off your new FT-530. What a bright idea!

NEW

Multi-Function Digital Display Speaker Mic and S Meter. (*Optional*)

YAESU
CALL
VFO

YAESU

Performance without compromise.℠

© 1992 Yaesu USA, 17210 Edwards Road, Cerritos, CA 90701 (310) 404-2700

Specifications subject to change without notice. Specifications guaranteed only within amateur bands. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.

See us in Booths 521-524,532-535,586-587 We are a Hamvention Prize Donor

KENWOOD

Savor the Thrill of the Chase with Kenwood's New TS-950SDX

Like a cheetah in pursuit of game, Kenwood's newest HF transceiver blends intense efficiency with swift, surgical precision. State of the art, pure and simple. Offering superb TX/RX performance plus exceptional signal purity, the TS-950SDX establishes a new benchmark for HF communications.

- **Built-in DSP (digital signal processor)**
- **Dedicated Power MOS FET final section**
- **User-friendly design and menu system**

HF TRANSCEIVER
TS-950SDX

Kenwood meets or exceeds all specifications. Contact your dealer for a complete listing of specifications and accessories. Specifications are subject to change without notice. Complete service manuals are available for all Kenwood transceivers and most accessories. One year warranty in the U.S.A. only.

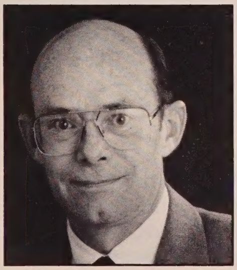
See us in Booths 050-052,071-073 We are a Hamvention Prize Donor

Contents

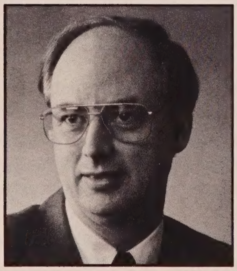
Accurate Address Information 13
Advertisers Index 9
Air Freight Service 5
Alternate Activities 9,46,47
Award Nomination Form 66
Award Winners 67
Amateur of the Year, Previous 76
Baggage Check 5
Banking Services 13
Banquet 9,63
Bus Transportation 11,88
Chairman's Welcome 3
DARA Leadership 71
DARA Membership 11
DARA Scholarship 69
Exhibit Hours 5
Exhibitor, Information 11
Exhibitors' Booth Location Map 78,79
Exhibitors' Index 73,75,77
Flea Market Information 5,9,81
Forums Schedule 44,45
Forums, Friday 5,31
Forums, Saturday 5,33
Forums, Sunday 5,41
Future Hamvention Dates 11
Hamvention Committee 21
Hamvention Office 5
Handicapped Parking 11
Hot Air Balloon Mobile 5
Loading Pass 11
Lodging For 1993 90,92
Lost and Found 5
Map, Dayton Area 89
Map, Dayton Area Lodging 93
Map, Flea Market 82,83
Map, Ohio 2M Repeaters 70
Map, Regional Lodging 91
Mayor's Proclamation 68
Measurements 43
Message Center 5
Official Designation 68
Ohio County Award 15
Parking 11
Past General Chairmen 21
Phone Numbers 11
Prize Donors 60,61
Prizes 5,58,59
Prizes, Banquet 62
Program Advertising 11
Registration & Ticket Sales 9
Special Event Stations 5
Talk-In Frequencies 5
Test Bench 11
Times and Places 5
Unofficial Functions 17,19
Unofficial Functions Listings 11
Wheelchairs 11
Worked All Dayton Award 15
While You're Here 23,25,27,29

Cover Photo — Page 43

Chairmans Welcome



Dave Grubb, KC8CF
General Chairman



Ken Allen, KB8KE
Assistant
General Chairman

WELCOME!

On behalf of the Dayton Amateur Radio Association and the Dayton HamVention Committee, I am pleased to welcome you to the 1993 Dayton HamVention.

Since before the doors closed on Sunday afternoon at last year's show, the HamVention Committee has been hard at work to assemble another great program. As always, our goal is to provide the very best in equipment displays, an outstanding Flea Market, stimulating forums and social events. We hope that everyone visiting the HamVention finds "just what they're looking for."

Again, welcome to our show. Have a great time, renew old friendships, make new ones and have a safe trip home. See you in '94.

73,

Dave

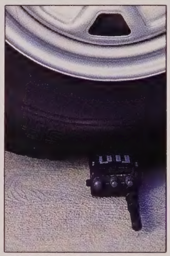
Dave Grubb, KC8CF

General Chairman

Depend on the #1 Handheld in the World

ALINCO
DJ-580
VHF/UHF FM TWIN BAND

Incredibly Tough!



DJ-580T Dual Bander
Photo for Demonstration only-
Abuse to the transceiver will void the warranty.

For Brochures, Mod sheets, Operation Manuals and Service Manuals, try our new 24 hour HotLine.

TELEPHONE: **310-618-9017**

Model DJ-580T

The new DJ-580T takes the lead in super-compact, handheld technology. Generously loaded with all the best features, this is the smallest twin - band HT you will find with so much power going for it.

Great sound, excellent sensitivity, and a comfortable, ergonomic design make this mini very hard to beat.

Alinco's DJ-580T has Full-Duplex Cross Band Operation and Cross Band Repeater Functions with real world power and excellent sensitivity. Airband receive with simple modification.

This unit has built in DSQ for paging, CTCSS encode and decode standard, various scanning functions, 3 power level selections for each band, bell function, and an illuminated keypad.

New MCF function allows you to set the 40 memory channels regardless of which channels you want for VHF or UHF. Any combination is possible.

If the battery is depleted to less than 5 volts, Alinco's Patented Super Low Battery Consumption Function is automatically activated. You can continue to operate the radio all the way down to 3.5 volts. This feature is effective with dry cell batteries only.

Check out the affordable technology of the 90's.
Check out ALINCO.

ALINCO ELECTRONICS INC.
438 Amapola Avenue, Unit 130, Torrance, CA 90501
TeL:(310) 618-8616 Fax:(310) 618-8758

ALINCO
ALINCO ELECTRONICS INC.

Specifications and features are subject to change without notice or obligation.

CIRCLE 158 ON READER SERVICE CARD

See us in Booths 628, 629, 635, 636 We are a Hamvention Prize Donor

Times and Places

Exhibit Hours ...

Exhibits open and prizes on display.

Friday	Noon - 6:00 P.M.
Saturday	8:00 A.M. - 5:00 P.M.
Sunday	8:00 A.M. - 2:00 P.M.

Flea Market Hours ...

Friday	8:00 A.M. - 6:00 P.M.
Saturday	6:00 A.M. - 5:00 P.M.
Sunday	6:00 A.M. - 4:00 P.M.

Forum Hours ...

Friday	1:00 P.M. - 4:45 P.M.
Saturday	9:00 A.M. - 5:00 P.M.
Sunday	9:00 A.M. - 2:00 P.M.

Prize Drawings ...

Drawing for major prizes: 3:00 P.M. Sunday

All areas except Prize Drawing Area (Hara Arena) will be closed and secured at 2:00 P.M. Sunday. Hara Arena will be closed after the last prize is drawn.

Message Center ...

Leave a message for your friends by entering their call sign and message at the DARA Booth #1 (next to the Prize Booth)(see map pages 78 & 79). Prize monitors throughout the arena complex and at the DARA booth will periodically list "message holding", by call sign.

Talk-in Frequencies ...

For directions and assistance in the Dayton Area during your visit to Hamvention, contact "Talk-In" on the DARA Repeater 146.94 MINUS, [alternate 146.91(-)].

To help the flow of information to our visitors, please use other Dayton area repeaters to contact friends. Some repeaters with good coverage include 146.64 (-), 147.135 (+), 145.11 (-), 146.82 (-), 222.94 (-), 442.1(+) and 442.25 (+).

General Hamvention information is also available on 530 A.M.

Baggage Check ...

Room adjacent to Hamvention office. $1.00 per claim check. All items must be reclaimed by closing time each day. No overnight storage is permitted.

Lost and Found ...

Please take items to the Hamvention office. See map on pages 78 & 79.

Special Event Stations...

DARA FLEA MARKET

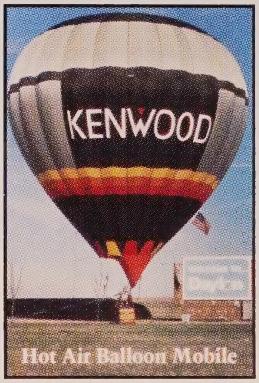
A special event station, operated by the Dayton Amateur Radio Association., will be held in the flea market at spaces 1982 and 1983. The operation will be very informal. The station is intended as a place where newly-licensed and/or upgraded hams can use their new privileges, a place where schedules with friends can be kept, and contacts made with the rest of the amateur world.

The station will be in operation during normal flea market hours (and possibly during the evening hours also) It is our intent to concentrate on frequencies in the Novice and General phone and CW bands so that everyone who couldn't make it to Dayton in '93 can still share in the fun. A special QSL card confirming contacts with W8BI/8 will be available.

HOT AIR BALLOON MOBILE

Weather permitting, up to six hot air balloons will launch from Hamvention grounds during Dayton '93. Each balloon will be carrying a special; event station from approximately 7:00 A.M. to 8:00 A.M. EDT both Saturday and Sunday.

Aeronautical QSO's can be made on 146.55, 146.58, 147.51, 147.54, and 147.57 MHz simplex.



Hamvention Office ...

The Hamvention office is located just inside and to the right of the main entrance of the Conference & Silver Arena (see map on page 78 &79). Services include: advance registration pick-up, wheelchairs, lost and found, and loading passes.

Air Freight Service ...

Delta Air Freight Cargo is offering a 40% discount off the published rate, with a $30 minimum, to over 150 cities. Delta will have a representative at the Hamvention to handle your shipping needs and will provide free truck service to the airport. Booths 204 and 216. See map on pages 78 & 79.

Hours:	Friday	9:00 A.M. - 6:00 P.M.
	Saturday	9:00 A.M. - 6:00 P.M.
	Sunday	9:00 A.M. - 3:00 P.M.

rfconcepts
VHF1-60
Power
Thermal
Xmit
SWR
Pwr
a division of Kantronics

rfconceptsVHF1-60

HighPower for 2m HTs

The **rf**concepts **VHF**1-60 provides added power for both mobile and ham shack use for your 2 meter handie talkie (HT). The amp's sensing circuit detects the HT's output power on 2 meters and automatically switches the amp in-line for a full 60 watts output. For dual band HTs, 70cm signals are sent automatically to the antenna without amplification.

The **VHF**1-60 **SineSink**™ heat sink and flow soldered assembly assure reliable performance and low maintenance. Additional features include a 2 meter discriminator to eliminate false keying by out-of-band signals, a high VSWR LED indicator, ALC output power control to protect against antenna mismatches, thermal shutdown with thermal LED, and transmit LED. The amp measures a compact 5x9x3 inches, uses 13.8 VDC at less than 14A, and accepts a maximum RF input of 8 watts.

For high RF environments, such as crowded cities, an optional three-resonator Helical filter is available for 2 meter only operation. This helical front end reduces out-of-band interference that can often overload HTs.

The **rf**concepts **VHF**1-60, one watt in, 60 watts out. Added power for today's 2 meter HTs, automatically.

Kantronics KAM Plus
Lock
Val
Xmit
Con
Sta
Xmit
Rcv
Con
Sta
Mail
AM
FM
On
Off
Power

the **NEW** Kantronics **KAM Plus**™

the **Multi-Mode** with PACTOR

Kantronics, the digital leader, again defines state-of-the-art by creating a new industry standard in digital communications. The Kantronics All Mode Plus (**KAM Plus**) includes the KAM's breakthrough design of simultaneous HF/VHF operation and Host Master split screen software compatibility. In addition to PACTOR, the **KAM Plus** operates CW, RTTY, ASCII, AMTOR, and PACKET, supported in terminal and HOST modes.

Standard features of the new **KAM Plus** include

- PACTOR
- 128K bytes of RAM, expandable to 512K
- EPROM space expanded to 1Meg bits
- socketed lithium battery & on-board clock
- new user/expert command sets
- quick start and reference manuals
- enhanced mail box command set
- extended RTTY & AMTOR character sets
- on-line help messages for each command
- enhanced CW: Farnsworth, weighting, tone
- programmable mark & space filters
- low power consumption

We have great news for existing **KAM users** too. Kantronics has developed a plug-in board that adds full **KAM Plus** functionality to your KAM. The KAM add-on board converts an existing KAM to one with Pactor, clock,128K bytes of RAM (max), lithium battery, and the same firmware additions listed above.

Get what you need, the KAM add-on board or the Kantronics **KAM Plus**, expanded for the future.

See us in Booths 041 - 044

Kantronics 1202 E. 23rd St, Lawrence, KS 66046-5006, 913.842.7745 FAX 913.842.2021

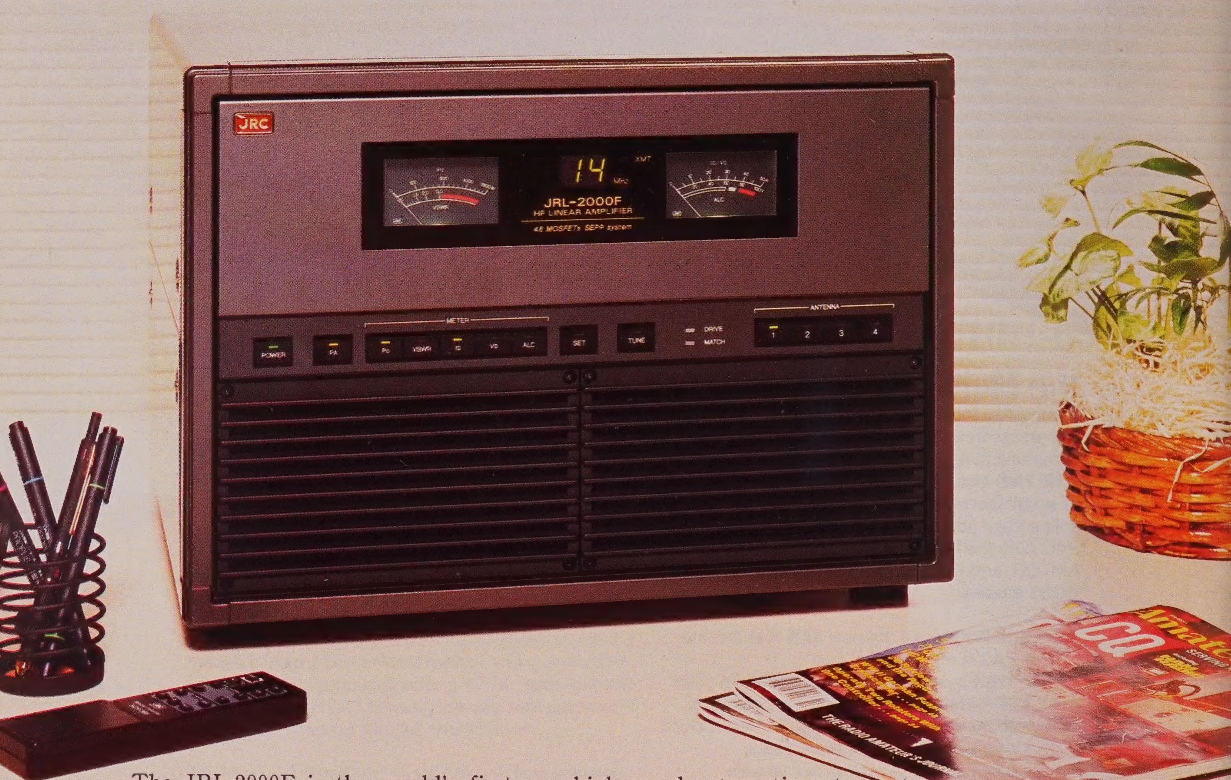
This device has not been approved by the F.C.C. This device is not, and may not be offered for sale or lease, or sold or leased until the approval of the F.C.C has been obtained.

JRC

JRL-2000F

Fully Automatic MOSFET
HF LINEAR AMPLIFIER

- 1 kW No-Tune Power Amplifier
- 48 MOSFETs Single Ended Push-Pull (SEPP) Design
- Built-In Automatic Antenna Tuner
- High-Efficiency Switching Power Supply


JRC
14 MHz
XMT
JRL-2000F
HF LINEAR AMPLIFIER
48 MOSFETs SEPP system
METER
POWER
PA
Po
VSWR
ID
VD
ALC
SET
TUNE
DRIVE
MATCH
ANTENNA
1
2
3
4

The JRL-2000F is the world's first MOSFET HF linear amplifier, designed using the same high technology found in JRC's professional high-power radio transmitters. Featuring a heavy-duty power amp that incorporates 48 RF power MOSFETs to ensure low distortion and clean output up to 1,000 watts (100% duty cycle, 24 hour) SSB/CW, plus a high-speed automatic antenna tuner with memory capacity of 1820 channels for instant QSY. Plus a high efficiency switching power supply (80V-264V) with power factor correction to supress AC line currents, an automatic antenna selector for up to four antennas and a wireless remote control unit.

JRC *Japan Radio Co., Ltd.*

430 Park Ave, 2nd Floor New York. NY 10022
Phone : (212)355-1180 Fax : (212)319-5227
Telex : 961114 JAPAN RADIO NYK

See us in Booths 518,519

Registration and Ticket Sales

DAYTON Hamvention®

General Admission and Grand Banquet

General Admission (valid all 3 days) $14.00

Age 12 or younger, FREE

A general admission ticket is required to attend the Alternate Activities. This ticket is also available at Meadowdale High School.

Banquet $24.00 (At Hara Arena)

BANQUET tickets will be sold until 12:00 (noon) Saturday at Hara Arena. If banquet tickets are still available, they may be purchased at the banquet door.

Ticket requests RECEIVED by April 2 (Canada - March 26) are sent by return mail. Orders received AFTER the deadlines are held for pick-up in the Hamvention office.

Tickets May Be Purchased

Thursday	Starting at noon
Friday	Starting at 7:00 A.M.
Saturday	Starting at 6:00 A.M.
Sunday	Starting at 6:00 A.M.

Alternate Activities Luncheon

(INCLUDES DOOR PRIZE DRAWING)

Luncheon	Saturday	$8.00
	Sunday	$8.00

LUNCHEON TICKETS ARE SOLD ONLY AT:

Hara Arena (Room 3)

Friday	2:00 P.M. to 3:00 P.M.

Meadowdale High School

Saturday	8:00 A.M. to 12:00 P.M. (noon)
Sunday	8:00 A.M. to 12:00 P.M. (noon)

Flea Market

A general admission ticket is required to enter the Flea Market. Tickets to exhibit and sell at the Flea Market are sold in ADVANCE only! For 1994 Flea Market permits, watch for our ad in various amateur radio magazines. See page 81 for more Flea Market information.

Advertisers Index

PAGE
acc: advanced computer controls, inc. 48
Alinco Electronics, Inc. 4
AMSAT 16
Ameriton 12
Atlantic Ham Radio 80
ATVQ 94
Baltimore Amateur Radio Club 24
Coaxial Dynamics, Inc. 46
Delta Research 74
Doug Hall Electronics 74
R. L. Drake Company 38
EDCO: Electronic Distributors Corp. 54,55
Elenco Electronics, Inc. 72
GLA Systems 38
Hewlett Packard Co. 53
Hi-Res Communications, Inc. 80
ICOM America, Inc. ....IFC, 40, 50, 51, 52
International Crystal Mfg. Co. 20
j-Com 28
Japan Radio Company 8
Kantronics Inc. 6,7
Kenwood U.S.A. Corporation ....2, 98 -100, IBC, BC

PAGE
M2 Enterprises 56
Maxrad, Inc. 49
MCM Electronics 29
Mendelson Electronics Co., Inc. 14
MFJ Enterprises, Inc. 18, 30, 34, 35
Micro Experts 86,87
Motorola, Inc. 95
Outbacker Antenna Sales 32
Personal Database Applications 13
PolyPhaser Corp. 10
Pro-Print, Inc. 26
QCWA 72
Rochester Hamfest. 43
SGC, Inc. ....57, 64 ,65
Sensible Solutions 68
Software Systems Consulting 38
Standard Amateur Radio Products 26, 74, 80
TX RX Systems, Inc. 62
Universal Radio, Inc. 13
Vibroplex Company, Inc. 76
W&W Associates (Batteries) 49
Wacom 26
Yaesu, USA ....1, 96 ,97

GROUNDING AND LIGHTNING SOLUTIONS

COAX TO 6GHz

BROADCAST & MILITARY TO 80 KW

12-80VDC @ 50A

3ø POWER TO 480VAC

STRIKE COUNTERS TOWER/POWER/PHONE

CHEMICAL GROUND SYSTEMS

BREAKDOWN TESTERS

HIGH CURRENT/ENERGY LOW CAPACITANCE SHUNT

4-23 GHz MICROWAVE DOWNCONVERTERS

TWISTED PAIR (TO DS-3 RATES)

VIDEO & TUTORIAL BOOK

SINGLE POINT GROUND PANEL

LAN/VIDEO

ENTRANCE PANELS

COPPER STRAPS & CLAMPS

OVER 1500 MODELS

200 STOCKED

CUSTOMIZATION AVAILABLE

SINCE 1979

"To Keep YOU Communicating...
We Changed BLITZ To BLISS"

PolyPhaser
CORPORATION

P.O. Box 9000 • 2225 Park Place
Minden, NV 89423-9000
(800) 325-7170
(702) 782-2511 Fax: (702) 782-4476

See us in Booths 440,441 We are a Hamvention Prize Donor

Other Information

DAYTON Hamvention®

Bus Transportation ...

AVOID PARKING PROBLEMS BY TAKING THE HAMVENTION BUSES.

Free Bus Service will be provided between Hara Arena and many hotels, motels, the Air Force Museum and designated parking lots. See schedules at the motel registration desks or on page 38 of this program or call Talk-In.

Wheelchairs ...

Wheelchairs are available at the Hamvention office.

Parking ...

There are approximately 8000 privately owned pay-to park parking spaces near Hara Arena. We have arranged for free parking at Forest Park, Salem Mall, Mendelson Electronics, and the Meijer store on North Main Street. See map on page 89.

Please park in one of our designated parking areas and use our free shuttle bus.

Campers, trailers (self-contained vehicles) or vehicles that require more than one space will not be permitted to park in the Flea Market or at Salem Mall. Campers and trailers may park at Tall Timbers KOA or at the Montgomery County Joint Vocational School (MCJVS) (fee charged - see map on page 89) after 3:30 p.m. on Friday and all day Saturday and Sunday.

Loading Pass ...

Due to the limited parking at Hara Arena, we will issue temporary loading passes to allow you access to Hara for loading large packages. Loading passes can be obtained at the Hamvention office near the Conference and Silver Arena entrance. See map on pages 84 & 85.

Handicapped Parking ...

Handicapped visitors have been issued special parking passes in advance.

Hamvention Phone Numbers ...

Hamvention Office	454-1456
Flea Market	454-1880
Exhibits	454-1882

APRIL 22 - 25 ONLY

Emergency Only	274-1410
Forums	274-9542
Office at Hara	274-1008

Future Hamvention Dates ...

April 29, 30, May 1, 1994
April 28, 29, 30, 1995
April 26, 27, 28, 1996

These dates are tentative and should be used only as a guide for future planning.

DARA Membership ...

If you would like to join the Dayton Amateur Radio Association (DARA), go to Booth #1 (next to the Prize Booth) in the Hara Arena building.

Membership through June 30, 1994: $6

Additional family membership (at the same address): $2 per person

Exhibitor Information ...

To receive information about becoming a new exhibitor at the 1994 Hamvention, leave your name and address at the DARA booth or write to:

Hamvention
Exhibits Chairman
P.O. Box 964
Dayton, OH 45401-0964

Unofficial Functions Listings ...

To be listed in the Unofficial Functions section of the 1994 program and/or our direct mail pieces:

Contact: Hamvention Publications Chairman
P. O. Box 964
Dayton, OH 45401-0964

Deadline for mailer: January 3, 1994

Deadline for program: March 1, 1994

Program Advertising ...

To receive information about becoming a new advertiser in the 1994 Hamvention program, write to:

Hamvention Advertising Chairman
P. O. Box 964
Dayton, OH 45401-0964

Test Bench ...

Marconi Instruments and Communications Associates will have test benches available inside the building for you to check-out your purchases (see booths 526 and 511). They will provide power, service monitor, dummy load and wattmeter. Neither DARA, Marconi Instruments nor Communications Associates will be responsible for damages to your equipment.

Visit the high power specialist at Booths 80-82!

Ameritron *doubles* average SSB power . . .

NEW AL-80B kilowatt output desktop linear can double your average SSB power output with high-level RF processing . . . it also runs cooler because its Eimac 3-500Z tube completely turns off between words . . .

Ameritron's all NEW AL-80B kilowatt *output* desktop linear can *double* your average SSB power output with high-level RF processing using Ameritron's exclusive *Dynamic ALC™*.

You get cooler operation because the AL-80B's exclusive *Instantaneous RF Bias™* completely turns off the Eimac 3-500Z tube between words. It saves hundreds of watts wasted as heat.

You get a full kilowatt PEP *output* from a whisper quiet desktop linear. It's a compact 8½"H x14"D x15¼" W and plugs into your nearest 120 VAC wall outlet. Covers all bands 160-15 Meters, including WARC and MARS bands (user modified for 10/12 Meters with license).

You get 1000 watts *output* on SSB, 850 watts *output* on CW, 500 watts *output* on RTTY, an extra heavy duty power supply, genuine Eimac 3-500Z tube, nearly 70% efficiency, tuned input, Pi/Pi-L output, inrush current protection, multi-voltage transformer, dual Cross-Needle meters, QSK compatibility, Two-Year Warranty, Made in USA, plus much more for only $1195.

Dynamic ALC™ doubles average SSB power

The AL-80B's exclusive *Dynamic ALC™* gives you high-level low-distortion RF processing. When activated, it can more than double your *average* SSB power and produce up to 6 dB improvement in intelligibilty. It maximizes your talk power without distortion and splatter.

A convenient front panel control lets you adjust your output power level.

Instantaneous RF Bias™ eliminates heat

The AL-80B's exclusive *Instantaneous RF Bias™* completely turns off the Eimac 3-500Z tube (except filaments) between words and dots and dashes. It eliminates hundreds of watts wasted as heat to give you cooler operation and longer component life.

Gutsy Heavy-Duty Power Supply

The guts of the AL-80B is its heavy ***heavy*** duty power supply. A 26 pound transformer using a high silicone steel core, computer grade capacitors, heavy duty bleeders and ten 3 amp, 1000 V power rectifiers give you a stiff 2700 volts fully loaded. Many amplifiers using *two* 3-500Zs use such small power supplies they don't deliver much more power output than the AL-80B.

BAND
AMERITRON
AL-80B
AMPLIFIER
POWER
XMT
ALC SET
MULTIMETER
PLATE
LOAD

NEW! $1195 Ameritron AL-80B Suggested Retail

Genuine Eimac® 3-500Z Tube

The AL-80B uses a *genuine* Eimac® 3-500Z tube warranted by Eimac® -- not cheaper, less reliable 3-500Zs used by some competitors.

600 WATTS OUT . . . $649

A tough low cost linear with REAL transmitting tubes!

Ameritron's new AL-811 linear amplifier gives you plenty of power to bust thru QRM. You get a quiet desk top linear that's so compact it'll slide right into your operating position -- you'll hardly know it's there . . . until QRM sets in. And you can conveniently plug it into your nearest 120 VAC outlet.

You get three tough vertically mounted 811A transmitting tubes, extra heavy duty power supply, all HF band coverage, pressurized ventilation, tuned input, dual illuminated meters, adjustable ALC, standby switch, transmit LED, UPS shippable and much more.

Select the 3 tube 600 watt out AL-811, $649 -- or the new 4 tube 800 watt out AL-811H, $795.

70% efficiency

The AL-80B is built on a rugged steel chassis. It has a separate RF compartment that's fully shielded to keep RF from leaking out. This keeps RFI and TVI to a minimum.

Superb RF design and layout, Hi-Q tank circuit and commercially rated RF power components give you nearly 70% plate efficiency over the entire operating range. Your power goes into your antenna instead of heating up your amplifier.

A whisper quiet internal fan draws in cool air over power supply components and pressurizes the 3-500Z tube compartment to remove heat for longest life.

Tuned Input lets your rig deliver full output

A 50 ohm broadband Pi-Network *tuned input* is used.

Pi/Pi-L Output Network

A carefully designed Pi/Pi-L output network using the optimum Q for each band gives you exceptionally smooth tuning, extremely wide matching range, full band coverage and peak performance at all power levels.

Has ball bearing vernier reduction drives with logging scales on plate and load controls.

Step-Start Inrush Protection™

Step-Start Inrush Protection™ stops damaging inrush current with a start up sequence that's *easy* on your tube and power supply components.

Multi-Voltage Power Transformer

Ameritron's exclusive *Multi-Voltage Power Transformer* lets you optimize for different line voltage. You can select from 14 different *primary* voltages from 90 to 140 VAC and 205 to 250 VAC.

Dual Illuminated Cross-Needle Meters

Ameritron's dual illuminated cross-needle meters give you *four separate meters* to monitor your operating conditions -- you can tell right away if something is wrong.

QSK Compatible

The fast *custom* T/R (transmit/receive) relay in the AL-80B switches nearly as fast as some vacuum relay QSK T/R switches.

For *lightning fast* QSK operation use the optional external Ameritron *electronic PIN diode* QSK-5 T/R switch or the internal QSK-5PC. Please contact Ameritron for details.

Plus more . . .

An *Standby* switch lets you run barefoot, but you can instantly switch to full power if you need it.

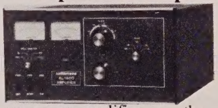
Has transmit LED; 12 VDC, 200 mA jack; 12 VDC keying relay for solid state and tube rigs; tough, nearly indestructible Lexan-over-aluminum front panel. Two year limited warranty.

AMERITRON offers the best selection of legal limit linears!

These 3 rugged linears all use a super heavy duty hypersil® power supply capable of 2500 watts!

Ameritron's most powerful amplifier

AL-1500
$2625
Suggested Retail



Ameritron super power amplifier uses the herculean Eimac® 8877 ceramic tube.

It's so powerful that 65 watts drive gives you full legal output—and it's just loafing because the power supply is capable of 2500 watts PEP.

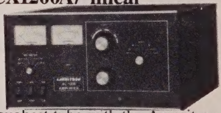
Ameritron's Dual 3-500Z linear

AL-82
$1995
Suggested Retail

This linear gives you full legal output using a pair of Eimac® 3-500Zs. Some competing linears using dual 3-500Zs don't give you 1500 watts because their lightweight power supplies can't use the tubes to their full potential.

Ameritron's 3CX1200A7 linear

AL-1200
$2095
Suggested Retail



Get ham radio's toughest tube with the Ameritron AL-1200—the Eimac 3CX1200A7. It has a 50 watt control grid dissipation—12 times tougher than the 4 watt rating of the 3CX800A7—yet you get the same full legal output as you get from a *pair* of 3CX800A7s.

AMERITRON brings you the finest high power accessories!

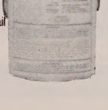
Legal limit antenna tuner

ATR-15
$399
Suggested Retail

Ameritron — *the high power specialist* — brings you the ATR-15 antenna tuner that's designed for legal limit amplifiers. Heavy duty silver plated bandswitch virtually eliminates switch failure. High power transmitting capacitors. 1.8-30 MHz. Peak reading SWR/wattmeter. 6 position antenna switch. Selectable 1:1 or 4:1 balun. 5¼ x 13¼ x 13½ inches. Meter lamps uses 12 VDC.

Legal Limit Dummy Load

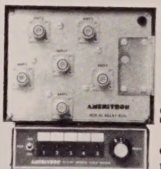
ADL-1500X
$39⁵⁰
Suggested Retail



Oil cooled 50 ohm dummy load. Handle 1500 W for 5 min. SWR under 1.2 up to 30 MHz. Low SWR to 400 MHz. 7½" H x 6-5/8" D. **ADL-1500X** without oil, $39.95. **ADL-1500** with oil, $59.95

Remote Coax Switches

RCS-8V
$149
Suggested Retail



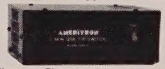
RCS-8V, DC-UHF 5 KW Coax Switch. Replace 5 coax feedlines with one with this Remote Coax switch. Weatherproof box mounts outdoors on your tower or mast. Attractive control unit sits on your operating desk. Low SWR to 450 MHz. Low loss. Rated at 5 KW to 30 MHz, 1 KW at 150 MHz. **RCS-8VN, $169.95** with "N" connectors.

RCS-4, $134.50. 4 position HF switch. Similar to RCS-8V. No control cable needed. Handles 2500 watts PEP.

RCS-4
$134⁵⁰
Suggested Retail

QSK-5 Pin Diode T/R Switch

$349 QSK-5 Suggested Retail

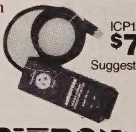


Self-contained, connects externally to most HF amplifiers. Handles 2.5 KW PEP, 2 KW CW. Six time faster then vacuum relay. 6x4x9½ inches.

Step-Start Inrush Current Protector

Stops power up inrush current and absorbs momentary high voltage spikes to your amplifier. ICP-120 for 110-120V or ICP-240 for 220-240 VAC.

ICP120/240
$79
Suggested Retail



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(601) 323-8211 • **FAX:** (601) 323-6551
Free Catalog/Nearest Dealer: **800-647-1800**
8 a.m. - 4:30 p.m. CST, Monday - Friday
Prices and specifications subject to change. © *1993 Ameritron*

Other Information continued

Accurate Address Information Needed...

Did you fail to get advanced Hamvention information in the mail this year? If so, there may have been a problem with your mailing address. Our mailing list is compiled from information taken from advanced registration and admission ticket stubs. The Post Office is now using a fully automated system for bulk mailing in the U.S., which requires accurate addressing and Zip+4. We process our mailing lists by computer to add the Zip+4 code and correct the spelling of Street and City names where possible. In spite of that, we were forced to discard more than 4000 addresses this year due to unreadable ticket stubs, or improper or incomplete address information.

By the time you read this, you have probably already deposited your ticket stub, but for next year, help us to get our mail to you. Check with your Post Office and use their standardized spelling, format and Zip+4.

Banking Services

Bank One of Dayton will be exchanging various denominations of bills, doing cash advances on MasterCard/VISA, providing Cashiers Checks, and accepting VISA E-Z Pay Applications with immediate credit notification. Banking services for HamVention guests will be available during regular Exhibit Hours. *The following hours are reserved for exhibitors only: Friday 1000 to 1200 and Saturday/Sunday 0700 to 0800. For more information on available banking services, please see Bank One directly.* **See map on page 78 & 79 for location.** ❦

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Quality Equipment Since 1942

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- ◆ Sony
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Logging, Awards tracking, DXing, Contesting, Packet spotting, Radio interfacing, QSLing, Full mouse support, etc. $79. IBM 386 or higher, 2 mg RAM.

LOGic™ 3

Personal Database Applications, 2616 Meadow Ridge Dr., Duluth, GA 30136-6037. Phone: 404-242-0887. Tech support: 404-417-1899 (if no answer please try later). Fax: 404-449-6687. Hours: M-Th 8 am - 6 pm, Fri 8 am - noon, Eastern. Visa/MC/Personal Check.

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For all RS-232 interfaceable rigs, incl. hard to find FT 990, 1000. Kit--$42. Assembled--$57.
THAT WORK!

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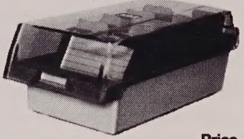
Expires April 25, 1993

DISKETTE/CD STORAGE CASES



Convenient carrying handle with snap lock. Translucent hinged dust cover for maximum protection. Sectioned dividers for easy access. Cushioned feet to protect surfaces.

Part No.	Size	Price
220-0124F	(40) 5.25" disks or (10) CD's	$\$2^{95}$
220-0125F	(40) 3.5" disks	$\$3^{49}$
220-0123F	(100) 5.25" disks or (25) CD's	$\$3^{99}$

TRANSIT CASE

Heavy duty transport case is constructed of gray high density polyethylene. Aluminum inner construction for unbeatable content protection. Some inner modification may be necessary for individual need. Size: 18"(h) x 20½"(w) x 13"(d).

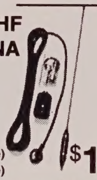
No.160-9900F $\$59.^{95}$ ea.

DOS® AND WINDOWS®

Dos includes GWBASIC

Part No.	Version	Price
229-3909F	DOS 3.3 OEM 5.25" Disk	$\$19^{95}$
229-3910F	DOS 4.01 OEM 5.25" Disk	$\$24^{95}$
229-3911F	DOS 4.01 OEM 3.5" Disk	$\$24^{95}$
229-3912F	Windows 3.0 OEM 3.5" Disk	$\$24^{95}$

ROOF MOUNT UHF MOBILE ANTENNA



UHF 445-470MHz
5dB Gain.
Complete with 14 ft. of cable and PL-259

Part No. 110-0027F(3/4" Hole)
Part No. 110-0028F(3/8" Hole)

$\$15.^{95}$ ea.

AMMO BOXES

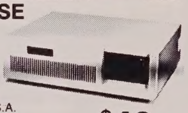
Great storage boxes. Heavy duty metal construction. Water tight.

$\$1.^{99}$ ea.

Available in two sizes:

Part No. 650-0177F	11"L. x 7"H. x 4"D.	30 Cal.
Part No. 650-0178F	12"L. x 7"H. x 6"D.	50 Cal.

IBM PC/AT CASE



Genuine IBM Case
Full Size AT Case
Accepts Mini or Full Size Motherboards
Slide-off Top
8 Slot Frame. Made in U.S.A.

Part No. 220-2759F $\$49$ ea.

MINI 120V VACUUM CLEANER

Comes with 2 ft. hose and 10 ft. power cord. IBM part #1671347. Removed from equipment, good condition. Includes one filter bag. Size: 4" Dia. x 12" (L)

Part No. 650-0205F $\$14.^{95}$ ea.

INTRUDER ALARM SYSTEM

Infrared detector plugs into AC wall outlet and either turns on a lamp (up to 155 watts), or turns on lamp and sounds a 90dB alarm. 6 digit security code allows any number of remotes to work with sensor(s). 45 second activation delay gives you time to leave the 30' detector range of the sensor. Includes one remote control.

Part No. 660-0036F $\$14.^{95}$ ea.

3 1/2" FLOPPY DISK DRIVE

Matsushita JU-253
Includes two 3.5" Face Plates (Gray & Beige).
Comes with separate 5 1/4" Mounting Kit

Part No. 220-3418F $\$49$ ea.

3-IN-1 TAP

Taps most common holes in electrical boxes and fixtures; 6-32, 8-32 and 10-24. Tap is made of top grade steel, and can be replaced.

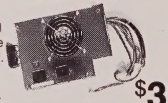
Part No. 280-0149F $\$3.^{95}$ ea.

SCHOOL BUS ALERT TRANSMITTER

Bus mounted Portable Transmitter that announces its location to the home unit.
SIMON TRANSMITTER
Mfg. TRANS ALERT 2000
Ideal for students with special needs.

Part No. 660-9404F $\$49.^{95}$ ea.

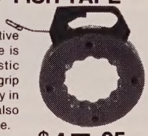
AT 200 WATT SUPPLY



Factory Refurbished
Fits full size AT case only.120/220V Input.

Part No. 500-0041F $\$39$ ea.

ELECTRICIANS 50' FISH TAPE



High carbon steel fish tape in easy to grip deluxe non-conductive case with handle winder. Case is made of high impact ABS plastic with four viewing ports. Pistol grip trigger lock holds fish tape firmly in place when pushing wire and also wipes excess lubricant from tape.

Part No. 280-0207F $\$17.^{95}$ ea.

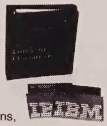
SCHOOL BUS ALERT

Add up to 250 units

Home Receiver to alert Students as to the location of their Bus. Receives Signal from Bus equipped with SIMON TRANSMITTER(below). Mfg. TRANS ALERT 2000, INC.

Part No. 660-9403F $\$9.^{95}$ ea.

IBM PC/AT GUIDE TO OPERATIONS



An ideal getting started guide for beginners. Complete with Exploring The IBM Personal Computer Software. Learn the basics:
keyboard commands, printer functions, disk storage, dos, basic programming and Funwriter a basic word processing package.
Includes IBM AT Diagnostics Disk.
(IBM #6280102)

Retail ~~$80.00~~ $\$9.^{95}$ ea.

Part No. 220-0073F

YAMAHA CARRYING CASE

Universal carrying case for long flat objects like tennis rackets or musical instruments. Fits objects up to 3-5/8'(H) x 11"(W) x 26"(L).

Part No. 650-0098F $\$3.^{95}$ ea.

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Special Awards

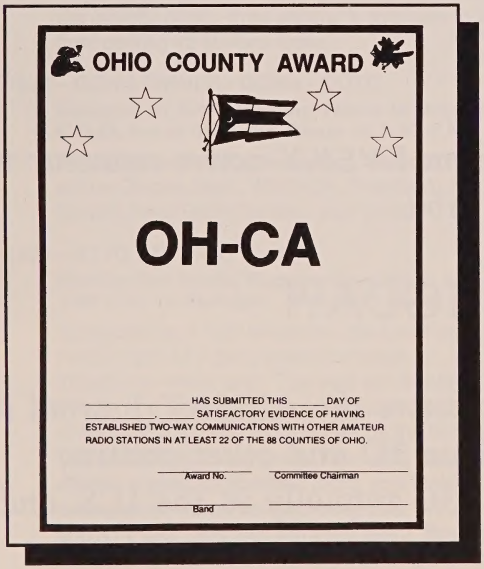
Ohio County Award ...

A special award is available for amateurs who make contact with Ohio counties.

RULES

1. Required contacts with 22 of the 88 counties, one must be Montgomery County. Additional endorsements will be given for 44, 66, and all 88 counties.
2. Contacts can be made on any Amateur band.
3. All modes - no contacts through repeaters or digipeaters.
4. Cards must be in possession and available upon request. Send log information with 2 General class or above signatures or an official of a National Level Radio Organization.
5. Send a 9"x12" SASE with log information (no QSL cards please) to:

OHIO COUNTY AWARD
Dayton Amateur Radio Association
P. O. Box 44
Dayton, Ohio 45401-0044



OHIO COUNTY AWARD

OH-CA

_______________ HAS SUBMITTED THIS ______ DAY OF
____________, ______ SATISFACTORY EVIDENCE OF HAVING ESTABLISHED TWO-WAY COMMUNICATIONS WITH OTHER AMATEUR RADIO STATIONS IN AT LEAST 22 OF THE 88 COUNTIES OF OHIO.

Award No.
Committee Chairman
Band

Worked All Dayton Award ...

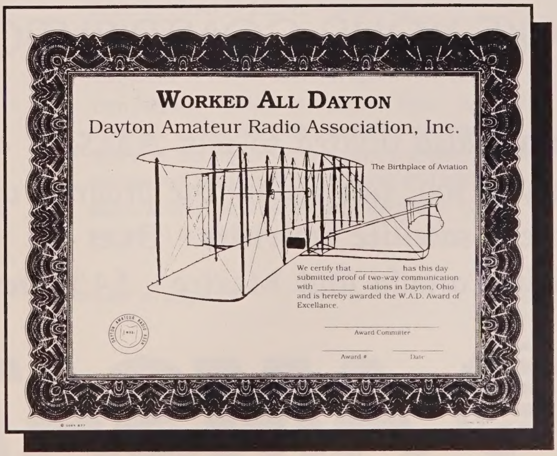
A special award is available for amateurs who make contact with Dayton, Ohio, or any of the following Ohio counties: Montgomery, Greene, Preble, Darke, Clark, Miami or Warren.

RULES

1. Contacts can be made on any Amateur band. All modes - no contacts through repeaters or digipeaters.
2. Required Contacts
   - A. Ohio Stations - 25 contacts
   - B. Continental U.S. stations (other than Ohio) 15 contacts
   - C. DX Stations - 10 contacts
3. Special Endorsements

   These contacts are to be made in addition to the required contacts (see #2)
   - A. W8BI Endorsement - Contact the Dayton Amateur Radio Association's Club Station, W8BI
   - B. YL Endorsement - Five YL contacts
   - C. Sister City Endorsement - Two contacts with either Steyr, Austria or Augsburg, Germany.
   - D. Double Extra Contacts Endorsement - Fifty additional contacts
   - E. Extra Contacts Endorsement - One hundred additional contacts
4. All contacts must be made after January 1, 1991.
5. Send log information (no QSL cards please) to:

Awards Manager
Dayton Amateur Radio Association
P. O. Box 44
Dayton, Ohio 45401-0044
USA



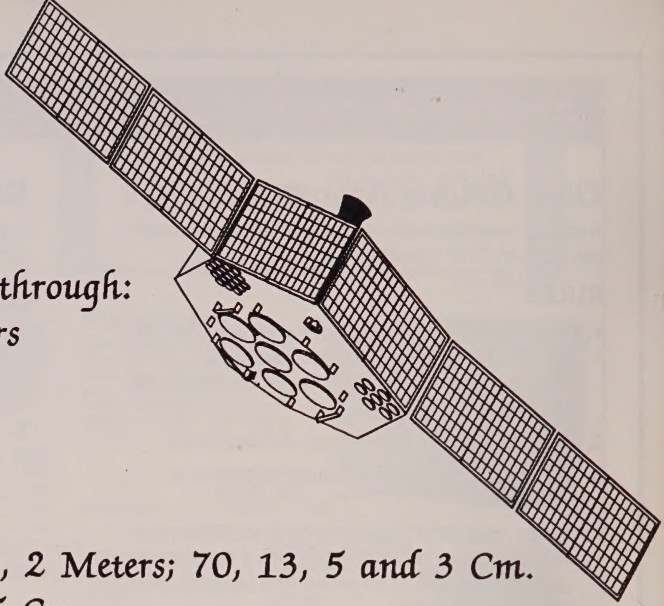
WORKED ALL DAYTON
Dayton Amateur Radio Association, Inc.

The Birthplace of Aviation

We certify that _________ has this day submitted proof of two-way communication with _________ stations in Dayton, Ohio and is hereby awarded the W.A.D. Award of Excellance.

Award Committee

Award #
Date



PHASE 3D WILL BRING:

Space to virtually every ham through:
    Higher power transmitters
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    Three axis stabilization

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    Downlinks on 10 Meters, 2 Meters; 70, 13, 5 and 3 Cm.
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    48,000 km. (29,000 mile), 16 hour orbit for increased coverage, and visibility for many hours each day.

PHASE 3D NEEDS YOUR HELP!

A contribution of just a few dollars from EVERY active amateur will insure that this new marvel gets into orbit.

MAKE YOUR CONTRIBUTION TODAY!

You are also invited to join AMSAT and receive the AMSAT Journal so that you too, can follow the progress of Phase 3D and other exciting amateur satellite activities. Dues are just $30 annually in the U.S. and $36 in Canada and Mexico - $45 elsewhere.

AMSAT

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(301) 589-6062, Fax: (301) 608-3410

See us in Booths 445 - 448 We are a Hamvention Prize Donor

Unofficial Functions

Friday

TIN CAN HAMS

There will be a gathering of ex-US Navy Destroyermen who are hams. If interested in attending a get-together, meet in Booth 486.

Tours: Voice of America (Bethany Relay Station)

Tours of the Voice of America (VOA) international broadcasting facility will be offered on Friday, April 23 at 1:30 P.M., and on Sunday, April 25 at 2:00 P.M. only. Regrettably, Saturday tours are not available since most of the Relay Station staff will be at Hamvention. Duration of the tour will be about 45 minutes. It is preferred that groups of no more than 25 be formed so that tours can be conducted in the most efficient way.

VOA is located South of Dayton on I-75. At Tylersville Road (Exit 22), drive 1 mile east to the relay station.

1830 – **B*A*S*H (24th Annual)**

Hara Arena Conference Center 6:30 P.M..

Hosted by the Miami Valley FM Association. Free admission. Food and beverages available. The "Conference Center" entrance is next to the front entrance of Hara Arena and will remain open after the exhibits close. Free parking is available in the front parking lot at Hara Arena

1830 – **QCWA DINNER - QCWA - OOTC**

Banquet at Neil's Heritage House in Dayton. C.O.D. bar at 6:30 and dinner at 7:30 P.M.

Advance reservations requested. Keynote speaker will be Gordon West, WB6NOA, President of Gordon West Radio School. Join the fun!

1900 – **ATVQ ATV PARTY**

Holiday Inn North, Wagoner Ford Rd at I-75. 7:00 P.M. to Midnight. Main Ball Room.

Sponsored by ATVQ Magazine, the traditional Friday night ATV party draws hundreds in attendance every year. This year will feature snacks and beverages as usual plus a great line up of ham TV speakers. Included will be the famous Hamcamvan from Marysville, Ohio with live ATV demos, a minicam shootout (bring your lookie talkie), a homebrew contest, bring your VHF, UHF and ATV gear, you may win $100 cash! Speakers cover the gamut of ATV activity including balloons, rockets, R/C Model ATV, DX, construction, contesting, antennas, equipment and operations.

Don Miller will sponsor the SSTV symposium in the adjacent room allowing guests to circulate between both rooms if desired. Featured speakers include Paskeon SSTV, Mike Emmerson and a new high resolution SSTV system.

1915 – **DX DINNER (8th Annual)**

Stouffer's Center Plaza Hotel (across from the Dayton Convention Center) Displays and cash bar at 6:30, dinner at 7:15 P.M.

Sponsored by Southwest Ohio DX Association. Our featured speakers for the evening will be Carl and Martha Henson, ET3BC and ET3YL, whose topic will focus on Ethiopia and Eritrea 1992. Join us for a dinner with big guns and little pistols, then visit the many DX hospitality suites in the hotel afterwards!

North Jersey DX Association (NJDXA)
(37th Annual)

Stouffer's Center Plaza, 5th and Jefferson Streets, 12th floor, Doolittle Suite, Rm 1211

The suite will be open after the DX dinner until the "wee hours".

1900 – **DAYTON CONTEST/DX SUPER PARTY**

Stouffer's Hotel, Miami Room (2nd Floor) Fifth & Jefferson Streets. Downtown Dayton. 224-0800.

Hosted by Frankford Radio Club and North Coast Contesters sponsored by Kenwood. Large Bar and Meeting Area. Meet DX and contest operators. Watch contest station videos.

1930 – **NATIONAL PACKET ROUND TABLE**

Roadway Inn Conference Center (I-75 and Little York Road) at 7:30 P.M.

General discussion of Packet Radio. A must for those involved on packet networking.

1930 – **SSTV GET TOGETHER**

Holiday Inn North, 2301 Wagoner Ford Road

Tom Hibben, KB9MC, and Don C. Miller, W9NTP will host. Latest developments in experimental SSTV will be presented and demonstrated. IVCA leaders will present their programs and future plans. Everyone is invited to participate. Come early and stay late.

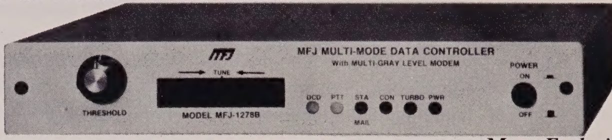
Continued on page 19

MFJ gives you PACTOR at no extra cost

No other Multi-Mode gives you all these features -- *not one!*

. . . only the new easy-to-use MFJ-1278B Multi-Mode and MultiCom™ software gives you all these features plus 10 digital modes . . . PACTOR, Color SSTV, 16 Gray Level FAX, Packet, AMTOR, RTTY, ASCII, Navtex, CW and Memory Keyer Plus an Enhanced 32K Mailbox

New enhanced MFJ-1278B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- New PACTOR Mode
- 32K bytes Enhanced Packet mailbox Allows separate callsign, auto forwarding and reverse mail forwarding, Remote Sysop access, Sysop paging, chat mode, mailbox C-text "Has-mail" LED indicator, Mailbox is expandable to 128K or 512K.
- New COLOR SSTV VIS tones. Allow other SSTV receiver to auto start picture
- 1 Megabit system EPROM
- 64K bytes battery backup RAM
- European RTTY tones selectable
- External reset, optional scope tuning output
- Selectable 19,200 baud terminal operation

Transmit and Receive Color SSTV

- Robot Color: 72 Seconds
- Robot B/W: 8, 12, 24, 36 Seconds
- Scotty Color: 1 and 2
- Martin Color: 1 and 2

16 Gray Levels FAX/SSTV Modem

- 16 Gray Levels Weather/AP Wire FAX

Real-Time Packet Pictures

- SVGA, VGA, EGA, CGA Color Packet Pictures

Standard Features

- *Auto* terminal baud rate: 300, 1200, 2400, 9600, 19,200
- Built-in 300 and 1200 baud packet modem
- Two software selectable radio ports
- Threshold control
- KISS interface for TCP/IP, MSYS compatible
- Anti-collision technology gets packets through faster, Host mode
- True DCD circuit designed for HF
- Normal or reverse FSK output
- RS-232 and TTL serial ports
- Fast-Start™ Manual

More *Exclusive* Features

- Automatic Signal Analysis™ for HF packet and AMTOR as well as RTTY and ASCII
- Built-in printer port
- Built-in sidetone amplifier with volume control
- TAPR internal modem header for high speed modem--2400 or 9600 baud
- 20-LED precision tuning indicator
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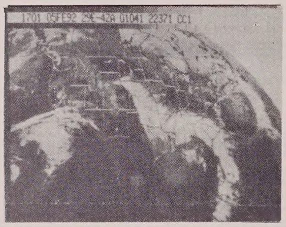
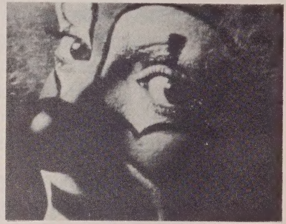
- QSO and transfer files simultaneously
- Dedicated MARS mode
- *Individual* radio port level control
- *Stored* parameters for each mode
- CW iambic paddle input
- 10-user programmable message memory buffers
- Call Alert Beeper™
- Built-in packet connect bell
- IC sockets used throughout
- A/C power supply included
- One year *unconditional* guarantee



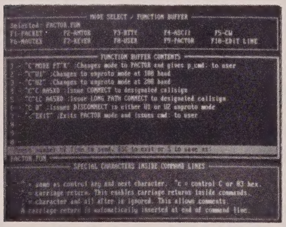
16 Gray Levels WeFax map received on 16.410 MHz. MFJ-1278B & MultiCom™ transmit and receive 16 Gray Levels FAX.

16 Gray Levels AP Wire Photo FAX received on 20.738 MHz. See tomorrow's news today.

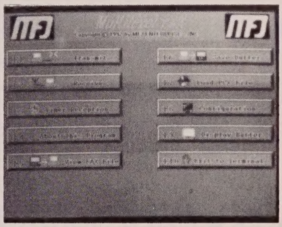
Full Color SSTV pictures received on 14.230 MHz. Robot 72-Second format. Transmit and receive color and B/W SSTV.



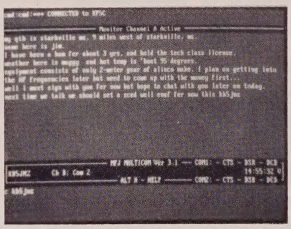
256 Color VGA Packet Picture received in real-time packet. Only MFJ-1278B and MultiCom™ has this feature.


MODE SELECT / FUNCTION BUFFER
FUNCTION BUFFER CONTENTS
SPECIAL CHARACTERS INSIDE COMMAND LINES

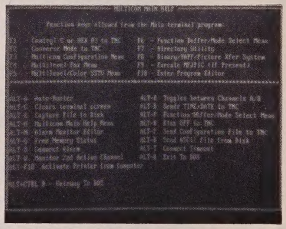
Easy and simple . . . MultiCom™ Operating menu--each mode gives you 10 programmable function buffers.



Dedicated MultiCom™ FAX menu. Getting on FAX and SSTV is as simple as pressing one or two keys.



MultiCom™ lets you carry on two digital QSO's *simultaneously* using two multi-modes or TNC's and two comm ports.



Need help? *Alt-H* brings up the on-line Help Menu that makes the MFJ-1278B very easy to use.

New MFJ-1278BT Turbo with fast 2400 baud modem

MFJ
MFJ MULTI-MODE DATA CONTROLLER
Turbo
MODEL MFJ-1278

Only the MFJ-1278BT gives you a built-in 2400 baud modem. It lets you run high speed packet without modifying your radio. Get the MFJ-1278BT and operate 300, 1200 and 2400 baud packet. The 2400 baud modem is also available separately. Order MFJ-2400, $89.95, for any MFJ TNCs and MFJ multi-modes.

MFJ-1278 and Multicom Upgrade*

Upgrade *your* MFJ-1278 to include PACTOR and the enhance mailbox--MFJ-56A (32K), $69.95; MFJ-56B (128K), $89.95; MFJ-56C (512K), $229.95.

New MultiCom™ upgrade Release 3.1. New features: Simultaneous dual multi-mode or TNC operation for DOS. New FAX module with auto receive, color FAX, PCX format compatible. YAPP binary file compatible. Order MFJ-49B for MultiCom™ 3.1 upgrade, $29.95. *Upgrade available for current MFJ-1278 and MultiCom user with proof of purchase.

Exclusive Optional Items

- Real-time clock, MFJ-43 $29.95
- Plug-in Scope tuning adapter, MFJ-44 $29.95
- 2400 baud internal modem, MFJ-2400 $89.95
- 9600 baud internal modem MFJ-9600 $109.95

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If you use the MFJ-1278B and MFJ Multicom 3.1 and IBM compatible VGA computer you get all these features. Features may vary with other terminal program or other graphics systems.

See us in Booths 062-064,083-085

Friday continued

2000 – **FAR-OUT A.R.C. Hospitality Blitz**
(14th Annual)

K. of C. Party Room, 267 Bainbridge Street at 8:00 P.M. (just 3 blocks east of Stouffer's Hotel) at same location as last year.

Complimentary snacks and beverages. Talk-in on 147.135 (plus offset)

2000 – **Western New York DX Association**

Hospitality Suite at the Stouffer Hotel in Suite 325 at 8:00 P.M.

Drop by for an eyeball with the Big Guns and Little Pistols. Everyone is welcome.

Saturday

TIN CAN HAMS

There will be a gathering of ex-US Navy Destroyermen who are hams. If interested in attending a get-together, meet in Booth 486.

1300 – **AMATEUR RADIO FLYING BOAT SOCIETY GET TOGETHER**

Meet at the Hara Arena food court between 1:00 P.M.- 3:00 P.M. Look for the sign.

1830 – **10-10 PAPER CHASERS.**

A buffet dinner and Cash Bar at Kohler Foods (in the Dot's Market complex) at 2250 Patterson Road, Kettering, Ohio.

1830 – **DAYTON CONTEST DINNER.**

Stouffer's Hotel, Van Cleve Ballroom

Sponsored by NCC, FRC, MRRC, YCCC

1900 – **DAYTON CONTEST/DX SUPER PARTY**

Stouffer's Hotel, Miami Room (2nd Floor) Fifth & Jefferson Streets. Downtown Dayton. 224-0800.

Hosted by Frankford Radio Club and North Coast Contesters. Sponsored by Kenwood. Large Bar and Meeting Area. Meet DX and contest operators. Watch contest station videos.

1900 – **SPEC-COM Journal/USATVS Specialized Communications Workshop Session**

(8th Annual)

Ramada Inn North, 4079 Little York Road (Exit 60 on I-75). Walnut Meeting Room #1 from 7:00 P.M. to 10:30 P.M. Ramada Inn. Phone (513) 890-9500.

Sponsored by the SPEC-COM Communications & Publishing Group and the United States ATV Society (USATVS).

No entrance fee. Refreshments available. The Hotel's "Summerfields Restaurant" is available for dinner before the sessions begin.

This year's workshop will include information of interest to all specialized mode enthusiasts including ATV, SSTV, WEFAX, Satellite Tracking, Computers, Digital and much, much more.

A complete agenda will be available at The Spec-Com Communications & Publishing Group, Ltd. Booth #326.

1930 – **WEATHER SATELLITES/REMOTE IMAGING**

Holiday Inn at I-675, 2800 Presidential Drive, Fairborn, Ohio at 7:30 P.M.

Hosted by Dallas Remote Imaging Group. See the latest in hardware and software for receiving and displaying earth images from polar-orbiting and geostationary weather satellites. Meet the WX satellite forum speakers and see the latest in antennas, receivers and display systems. Seating for 100 persons, so come early.

2000 – **Western New York DX Association**

Hospitality Suite at the Stouffer Hotel in Suite 325 at 8:00 P.M.

Drop by for an eyeball with the Big Guns and Little Pistols. Everyone is welcome. Refreshments and entertainment.

North Jersey DX Association (NJDXA)

(37th Annual)

Stouffer's Center Plaza, 5th and Jefferson Streets, 12th floor, Doolittle Suite, Rm 1211

The suite will be open before and after dinner until the "wee hours". ❦

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Dimensions HWD:
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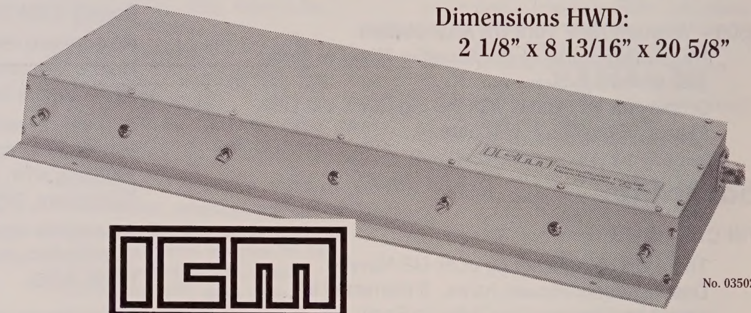
The 6 MHz nominal bandwidth and low loss design are perfect for transmitter or receiver use. Two filters can be used for repeater applications.

Heavy duty construction insures stable operation and long life.



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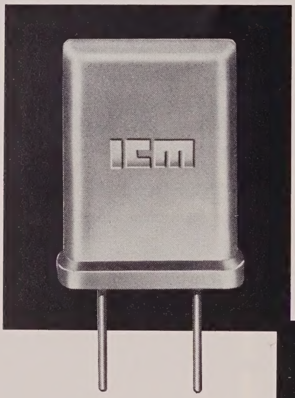

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1961-1962 — Joseph H. McNutt, W8GFN
1963-1964 — Sheemon A. Wolfe, W8WJL
1965-1966 — Edgar A. Smith, W8RKL
1967 — Robert Wilcox, K8EJI
1968-1969 — Jack Ohmart, K8CUA
1970-1971 — Kenneth E. Mills, W8RLY
1972 — George L. Shearer, WA8IHC (KE8WJ)
1973-1976 — Ted L. Suarez, K8BSC
1977 — Wallace M. Wright, WA8ZCA (AD8N)
1978 — John Basilotto, WA8ZAN (KC2EH)
1979 — Sandford H. Cohen, W8JEZ (N8HWQ)
1980-1981 — Noel K. McKeown, WB8QQC
1982-1983 — Harold A. Judd, WA8KNM
1984-1985 — Jack Mitchell, AA8Q
1986-1987 — Jim Simpson, WB8QZZ
1988-1989 — Bill McNabb, WD8SAY
1990 — Ed Hillman, N8ALN
1991-1992 — Ross Brown, WA8DQH

Air Force Museum

The world's largest aviation museum with 10 1/2 acres of aircraft and other exhibits under roof is a free attraction which is family oriented and includes over 200 airplanes such as the Sopwith Camel, the B52 and B1A bombers and the F117A Stealth Fighter, as well as the Apollo 15 capsule which circled the moon in 1971, plus more than 6,000 personal artifacts, documents, photographs and mementoes of Air Force history from the early 1900's. Free historical movies are shown daily in the museum's 500 seat auditorium. Also available for your convenience are an extensive gift shop, bookstore, cafe and picnic shelters. The newly opened IMAX Theatre will put you in the heart of the action (which the astronauts described as "the next best thing to being there"). Films shown are "The Dream is Alive" (the effect of being weightless with the astronauts) shown at 10,12 Noon, 2 and 4, (40 mins) and "To Fly" (the ecstacy of flight with the Blue Angels and a magnificent hot air balloon flight) shown at 11, 1, 3 and 5 p.m. (30 mins). Saturday only special Hamvention showing of "To Fly" at 6:00 p.m.

IMAX admissions are $4 Adults, Sr. Citizens $3.50, students $3 and ages 2 to 7, $2.00 Hours of operation are 9:00 A.M. to 5:00 P.M. daily. The Museum is also very accessible to those with disabilities.

Northeast of Dayton on Wright-Patterson Air Force Base
255-3284

Take I-75 to Exit 58. Take Needmore Road (Wright Brothers Parkway) east 6 miles to Springfield Pike exit. Turn right at the bottom of the ramp onto Springfield Pike. Museum is on the right.

Take I-70 to Exit 41 (SR 4). Take SR 4 south 6.5 miles to Harshman Road exit. Turn left at the bottom of the ramp onto Harshman Road (Wright Brothers Parkway) and travel 1 mile to Springfield Pike exit. Turn right at the bottom of the ramp onto Springfield Pike. Museum is on the right.

Aullwood Garden

Aullwood Garden is a 32 acre park which offers the visitor a walk through a lovely area of blooming plants in a wide variety of species and colors to please your senses. Open daily from 8:00 A.M. to 7:00 P.M. , the Gardens are located at 900 Aullwood Road which is close to the Englewood Reserve.

North of Dayton near Englewood Reserve. Take I-70 to Exit 29 (SR 48). Take SR 48 north to US 40. Turn right onto US 40 and cross the dam. Park in the Englewood Reserve parking lot at the east end of the dam. Be careful crossing the road and walk 200 yards down Aullwood Road, pass Aullwood Audubon Society, to Aullwood Gardens.

Aviation Trail/Wright Cycle Company

Aviation Trail /Wright Cycle Company welcomes you to Wright-Dunbar Village, the home of Orville and Wilbur Wright, the fathers of aviation, and Paul Laurence Dunbar, the poet who charmed the world with his lyric genius. As teenagers, the Wrights published the early poems and essays of Paul Laurence Dunbar, who was a classmate of Orville's and a friend to both brothers. Dunbar left this area behind as he gained national and world reknown. By 1900, Dunbar was a world figure whereas, outside of Dayton, only a handful of glider enthusiasts knew of the Wrights. Orville and Wilbur Wright began their careers as printers while still in school, but after graduation they entered the bicycle business and finally, aviation. You will be stepping directly into history as you walk upon the original floors where Orville & Wilbur did their planning and building. Exact replicas of the machinery used by the brothers is on the site, as well as original bicycles from that era. They had seven printing press businesses, five bicycle shops, and three buildings where they worked on the airplane.

Near downtown Dayton west of I-75. 443-0793. 10-4 Saturday, Noon to 4 Sunday. National Historical Landmark.

Take I-75 to Exit 53 A/B (Third Street). Take Third Street west over the river 0.5 mile to Williams Street. Turn left onto Williams Street. Wright Cycle Shop is one short block on the left.

Carillon Historical Park

CARILLON
HISTORICAL
PARK
DAYTON, OHIO

The Park will be opened especially for Hamvention visitors on Saturday, April 25, 1993 from 12:00 noon to 4:00 p.m. (A $1.00 donation is requested).

The Carillon Historical Park houses a unique collection of historical buildings and exhibits which tell the story of the development of Dayton and the Miami Valley. Among the most noteworthy in this collection are Wilbur and Orville Wright's first practical airplane, antique Dayton-made automobiles including a 1912 Cadillac first equipped with Charles F. Kettering's self-starter, a replica of the Wright Bicycle Shop, a Barney and Smith wooden railroad car, a functioning 1930 letter press Print Shop, a section of the Miami/Erie Canal and Dayton's first log building. The beautifully kept grounds with tree shaded areas are an enticement to picnickers. Pack a lunch and enjoy nature at its best. Plan time in your visit to see, and hear, the Carillon Tower which houses exposed bells which are played at different times throughout the day.

Just south of downtown Dayton. 2001 S. Patterson Blvd. 293-2841.

Take I-75 to Exit 51 (Edwin C. Moses Blvd). Take Edwin C. Moses Blvd. east 0.9 miles to Stewart Street. Turn right onto Stewart Street and cross the bridge. Turn right at end of the bridge onto Patterson Blvd. Carillon Park is 0.6 mile on the right.

Carriage Hill

SPRING ON THE FARM

The Park District's Carriage Hill Farm is a living historical farm recreating the lifestyle of a conservative farming family of the 1880's. Take part in many of the over 80 demonstrations at Spring on the Farm on Saturday, April 25 and Sunday, April 26 from 1-5 P.M. each day.

Stitch a quilt, wash on a washboard, make an herbal moth repellant, plant a pumpkin, shave a shingle, use a cross-cut saw, black a stove, try a drop spindle and take a hayride. This is your opportunity to hear the whistle as the steam engine powers a saw, see the furrows as the draft team pulls the sulky plow and taste funnel cakes, kettle-cooked beans and cornbread. Many craft items are for sale so you can take home a memory of the day you touched the past.

North of Dayton and I-70. 7860 Shull Road. 879-0461

A $1.00 donation is requested. Take I-70 to Exit 38 (SR 201). Take SR 201 north 0.5 mile to Shull Road. Turn right onto Shull Road and follow the signs.

Dayton Museum of Natural History

The newly renovated $4 million structure boasts many new attractions including a hands-on learning center for grade school through junior high, a physical science "Doing the Wave" display on wave phenomena, which includes demonstrations on light, objects, sounds, and radio waves, Bio-Ohio, Wild Ohio, a learning center for pre-schoolers, a computerized Digistar Planetarium which creates spectacular three dimensional effects, and a special exhibit which includes an audiovisual presentation in the Sun Room. Visit on Friday from 1 P.M. to 5 P.M., Saturday from 9 A.M. to 5 P.M.. and Sunday from 1 P.M. to 5 P.M. A nominal fee of $3.00 for adults, $1.50 for persons 3 - 16 years of age and $2.50 for Seniors is charged. The planetarium is an additional 75 cents per person. Children 2 and under are admitted free.

Just north of downtown Dayton. 2600 DeWeese Parkway. 275-7431

Take I-75 to Exit 58 (Needmore Road). Take Needmore Road 1.5 miles west to Riverside Drive. Turn left onto Riverside Drive and go 1.3 miles to Siebenthaler Avenue. Turn left onto Siebenthaler and cross the river. Immediately turn right onto DeWeese Parkway. The museum is 0.6 mile on the left.

Continued on page 25.

ANNOUNCING

THE 1994
GREATER BALTIMORE HAMBOREE AND COMPUTERFEST

HOST TO THE

ARRL MARYLAND STATE CONVENTION

SATURDAY, MARCH 26 AND SUNDAY, MARCH 27
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Many Show Special Bargains

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Show Hours are: Saturday, 8 to 5 Sunday, 8 to 4 • Admission is $5.00 Each Day
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Outside the State of Maryland, Dial 1-800-HAM-FEST (1-800-426-3378)

Dayton Art Institute

Founded in 1919, the Dayton Art Institute opened at its current location in 1930. The Italian Renaissance building is listed on the National Register of Historic Places. The classic structure provides a unique home for internationally-known collections including the outstanding Art of Our Time contemporary collection, European and American paintings and scultpure, an exceptional Asian wing, and notable collections of decorative arts, textiles and graphic arts. Free concerts are held at the Renaissance Auditorium on Sunday afternoon at 3:30 P.M. This has been a tradition at the Institute for more than half a century. Wheelchairs are available. Elevators and ramps make all public areas of the Institute accessible to the handicapped.

Downtown Dayton west of I-75. Forest and W. Riverview Avenues. 223-2411 (recording). 233-5277. Tues - Sun Noon to 5 P.M.

Take I-75 Southbound to Exit 54A (Grand Avenue). At the second light, turn left onto Forest Avenue. Turn right onto Belmonte Park North to the parking lot on the right.

Take I-75 Northbound to Exit 53B (First St./Salem Avenue). Turn left at the light at the bottom of the ramp and cross the bridge. At the light at the end of the bridge, turn right onto Riverview Avenue. Go three blocks and turn left on Belmonte Park North. Turn right into the parking lot.

Cox Arboretum

Located on 164 acres, with 85 of those acres being cultivated and offering many trails for the hiking enthusiasts, along with an edible landscape garden offering demonstrations on plantings of nuts, fruits, herbs, vegetables and other plantings. You will also find a large array of bulbs in bloom, two large ponds where the ducks are eager to munch on bread cubes and the Visitor's Center has a display on horticulture presented by well known artists. The grounds are available to you from 8:00 a.m. until dusk, while the buildings are open on Sunday from 1:00 p.m. to 4:00 p.m.

South of Dayton near the Dayton Mall. 6733 Springboro Pike (SR 741). 434-9005

Take I-75 to Exit 44 (SR 725). Take SR 725 east 0.3 mile to SR 741 (Springboro Pike). Turn left onto SR 741. Cox Arboretum is 1 mile on the left.

Sunwatch

TWELFTH CENTURY INDIAN VILLAGE

800 years ago they waited and watched for the sun to rise behind the sacred pole and cast the long shadow. Only then would the time be right. Research over a period of 17 years has uncovered an amazing array of artifacts depicting the social life of the 12th century. Find out how the 800 year old lodges are reconstructed from archaeological evidence and visit the interior of a reconstructed lodge.

Near downtown Dayton west of I-75. 2301 West River Road. 268-8199. 9-5 Mon - Sat. Noon - 5 Sun.

Take I-75 to Exit 51 (Edwin C. Moses Blvd.). Take Edwin C. Moses Blvd/Nicholas Road west 1.3 miles to West River Road. Turn left onto West River Road. Sunwatch is 1.0 mile on the right.

Magnetic Resonance Exhibit

Some of the technological advancements which create miracles in today's modern medicine can be seen at a museum at Kettering Memorial Hospital. Magnetic Resonance is a diagnostic procedure of soft tissues which is performed by using Scanners, Channel 3 radio waves and a computer. No X-ray is involved. This procedure would be called upon to study parts of the body such as brain tissues, infarcts, tumors, missing items, pathological abnormalities, and spinal cords just to mention a few. The museum is open from 7:00 a.m. to 11:00

Continued on page 27.

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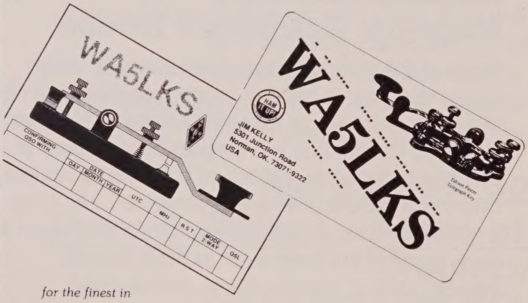
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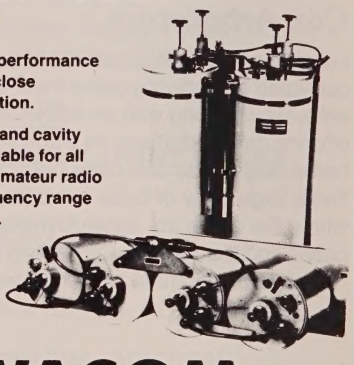

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p.m. daily and is located on the ground floor of the hospital.

South of downtown Dayton at Kettering Hospital, ground floor.
3535 Southern Blvd. 298-4331

Take I-75 Northbound to Exit 50A. Turn right onto Springboro West. Go 0.5 miles to Northlawn Ave. Turn left onto Northlawn. Go 0.3 mile over the railroad track to Springboro Pike (SR 741). Turn left onto Springboro Pike. Go 0.25 mile to the stoplight at Dorothy Lane. Turn right onto Dorothy Lane. Go 1.5 mile to Southern Blvd. Turn right onto Southern Blvd. Go 0.6 mile to Kettering Memorial Hospital on the right.

Take I-75 Southbound to Exit 50B. Go south on SR 741 0.5 mile to the second stop light. Turn left onto Dorothy Lane. Go 1.5 mile to Southern Blvd. Turn right onto Southern Blvd. Go 0.6 mile to Kettering Memorial Hospital on the right.

Glen Helen/Clifton Mill/ Ye' Old Tavern

YELLOW SPRINGS, OH.

Glen Helen Trails is a 1000 acre nature preserve located on the Antioch University College campus where you can enjoy a nature lodge, beautiful wildlife, vegetation and rock formations. Clifton Mill is a restored operating grain mill. Tours are available. Ye Old Tavern is a restored operating turn-of-the-century tavern. There are also many unique shops and restaurants in Yellow Springs.

South of Springfield at Yellow Springs and Clifton.

GLEN HELEN — Take I-70 east to Exit 52A (SR 68). Take SR 68 7 miles south to the first stoplight in Yellow Springs. Turn left and look for Glen Helen 2 1/2 blocks on the left.

YE' OLE TAVERN — Take I-70 east to Exit 52A (SR 68) Take SR 68 south 7 miles to Yellow Springs. Look for the Tavern.

CLIFTON MILL — Take I-70 east to Exit 54 (SR 72). Take SR 72 south 6 miles to Clifton. Look for signs to Clifton Mill.

International Women's Air & Space Museum

Woman's place in aviation started long before the so-called "women's movement" of recent years. In fact, did you know that Napoleon appointed a woman, Madame Blanchard, as his Chief Air Minister of ballooning in 1804. Katharine Wright, although not a pilot herself, was a very powerful force in the encouragement of the Wright Brothers' advancement in aviation. Over 15 years ago the idea of preserving the history of women in aviation was a dream. Since then memorabilia and historical artifacts have been collected, preserved and stored, making this initial dream a reality today. The museum is open to the public from 10 a.m. to 4 p.m. on Saturday.

South of Dayton and east of the Dayton Mall. 26 North Main Street, Centerville. 433-6766

Take I-75 to Exit 43 (I-675) . Take I-675 to Exit 4 (SR 48). Take SR 48 south 1.0 mile to the museum on the northeast corner of the intersection of SR 48 (Main Street) and SR 725 (Franklin Street).

Voice of America

BETHANY RELAY STATION TOURS

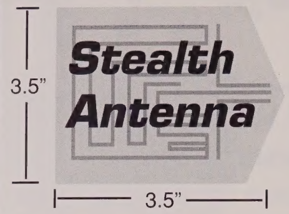
Tours of the Voice of America (VOA) international broadcasting facility will be offered on Sunday, April 26 at 2:00 P.M. only. Regrettably, Saturday tours are not available since most of the Relay Station staff will be at Hamvention. Duration of the tour will be about 45 minutes. It is preferred that groups of no more than 25 be formed so that tours can be conducted in the most efficient way.

VOA is located South of Dayton on I-75. At Tylersville Road (Exit 22), drive 1 mile east to the relay station.

Take Southbound I-75 to Tylersville Road (Exit 22).

Continued on page 29.

146 / 220 / 440 MHz



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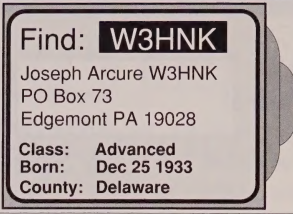

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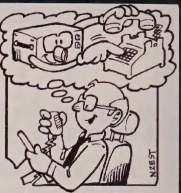

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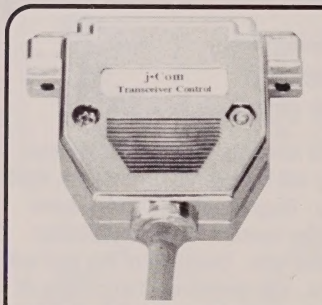

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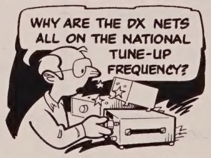
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Old Tippecanoe City Restoration Area

Whether you have an hour or a day, an interest in art, antiques and collectibles, or just enjoy shopping, Historic Tipp City is a must! This 1840's Miami-Erie Canal town offers hours of pleasure browsing the selections of over 50 antique dealers, 15 or more speciality shops in the renovated 1850's Old City Hotel, historical museum, art galleries and exhibits, and excellent dining opportunities.

You might want to stop first at the TIPPECANOE AND TYLER TOO! VISITORS CENTER at 12 E. Main Street where friendly folks will provide you with information on this town formerly called "Tippecanoe". As you browse the specialty shops in the Hotel Gallery, you'll be amazed at the size of the rooms compared to your current lodgings - no king-sized beds could fit these cozy spaces! You can revel in history as you sip coffee and join in the merriment in the Potter's House Cafe.

You'll also discover handcrafted reproductions, an old canal lock at Tipp Roller Mills, many other shops offering everything from pipes and a blending bar to over 50,000 gently used books. Historic Tipp City invites you to poke, prod and seek out the many interesting aspects of this unique community.

Take Northbound I-75 to Exit 68 (SR 571) at Tipp City. Turn onto SR 571 and go 1.0 mile east to the shops of Old Tippecanoe City. ❦

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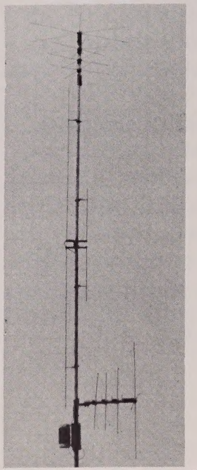

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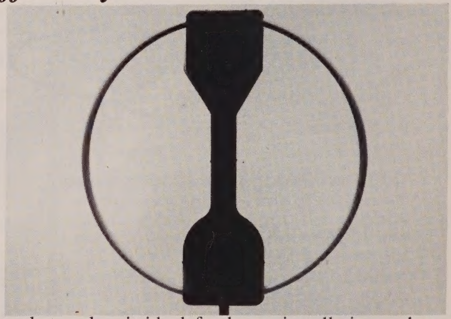

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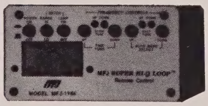

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FRIDAY FORUMS

1300 - 1445 AMSAT ....ROOM 1

Moderator: Mike Crisler, N4IFD, AMSAT V.P., Field Operations
AMSAT... "The Future is Bright!, William Tynan, W3XO, AMSAT-NA President
SAREX: "Mission Report and Plans"
Frank Bauer, KA3HDO, AMSAT V.P., Manned Space Programs
Rosalie White, WA1STO, ARRL Educational Activities Manager
Terry Jones, NZ8C, Marshall Space Flight Center
"Getting Started on the Amateur Radio Satellites"
Keith Baker, KB1SF, SW Ohio Assistant AMSAT Area Coordinator

1300-1430 EXCITING WAYS TO USE HAM RADIO IN THE CLASS ROOM..........ROOM 2

Moderator: Carole Perry, WB2MGP
"CQ All Schools Net and Live Classroom Demos", Gordon West, WB6NOA

1300-1645 PACKET RADIO..........ROOM 4

Moderator: Robert Neben, K9BL
"The Packet Deviation Meter", Lyle Johnson, WA7GXD
"New TAPR Developments", Greg Jones, WD5IVD
"Packet Radio in a Developing World", Eric Rosenburg, WD3Q
"9600 Baud Packet", Andy Demartini, KC2FF
"Introduction to TCP/IP", John Ackermann, AG9V
"How to Work the PACSATS", Bruce Rohn, WB9ANQ

1300 - 1645 ANTENNAS..........ROOM 5

Moderator: Tim Duffy, K3LR and Scott Jones, WR3G
"Determining the Wind Loading of Yagi Antennas", Dick Weber, P.E. K5IU
"New Antenna Ideas from Computer Models", Dr. Jim Breakall, WA3FET
"Low Frequency Antennas", John Brosnahan, W0UN
"Wire Yagi Antennas for 80 Meters", Floyd Koontz, WA2WVL
"Solar and Geomagnetic Effects on Long Distance Propagation", Frank Donovan, W3LPL

1300 - 1500 INTERNATIONAL HUNGARIAN AMATEUR RADIO CLUB..........ROOM 7

Moderator: John Rozsa, VE3NKW
Guest speaker: Nicolas Marshall, W6OLO
Speakers: Dr. Laszlo Radnay, W1PL
Istvan Miskey, KE8J
Robert Szule, N8HHE
Bela Banyasz, AD3Z

1400 - 1500 ELECTRICAL SAFETY DEMONSTRATION..........ROOM 6

Moderator: George Maurer and Tony Norman, Dayton Power & Light

1445-1530 HAM RADIO BBS - PRODIGY..........ROOM 2

Moderator: Joe Eisenberg, WA0WRI
"What is Prodigy", Joe Eisenberg, WA0WRI

Continued on page 33.

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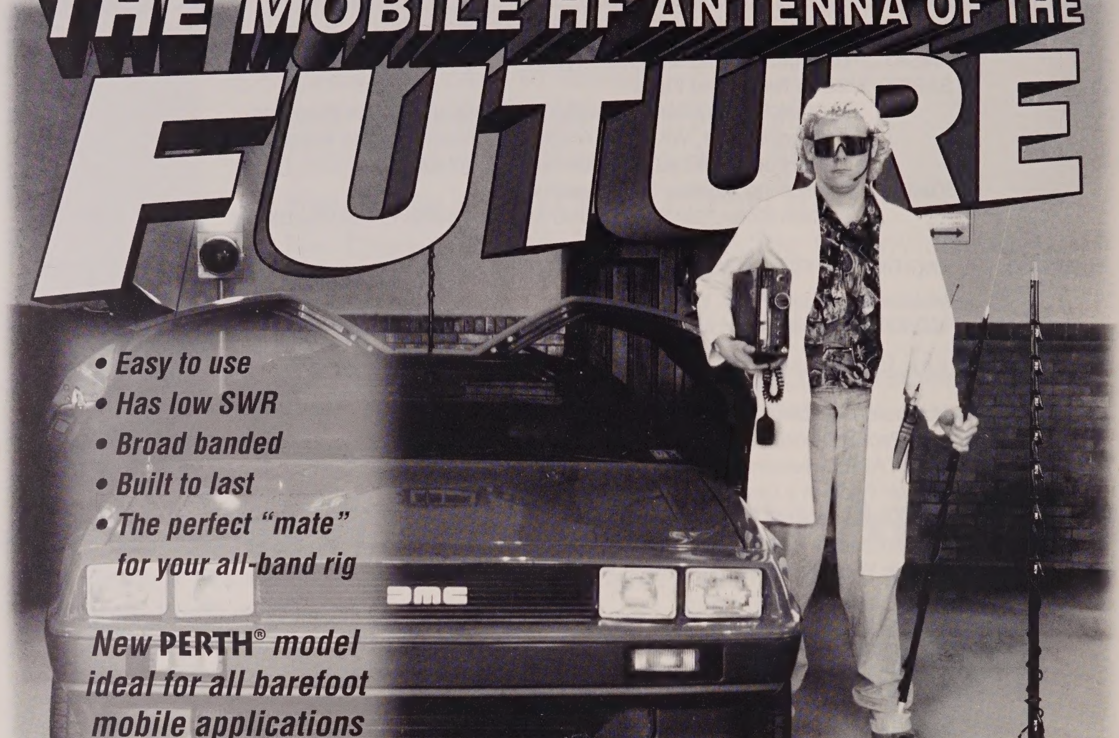

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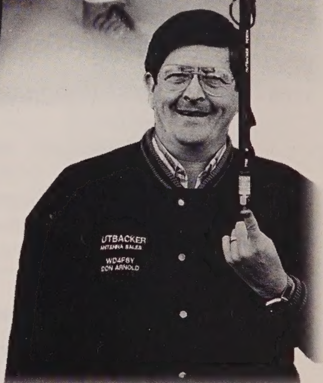

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FRIDAY FORUMS continued

1500-1645 COUNTY HUNTERS ....ROOM 1

Moderator: Billy Smith, Jr., W4HMV
Speakers: Norm Van Raay, WA3RTY, CQ Magazine's USA-Counties Award Director
Pete Peterson, K4QFK USA-CA 377, Custodian MARAC Awards
"Off the Road Experiences, USA 650 and USA 771"
George & Joyce Judy, KD8HA, KD8HB
John Sebastian, N8BGF, Great Lakes Director for MARAC

1515-1645 HF OPERATING TECHNIQUES FOR THE NEW & INEXPERIENCED HAM ....ROOM 7

Moderator: Mitchell Stern, WB2JSJ
Speakers: "HFOperating Techniques", Ronni Stern, KA1NRR
"HF Operating Techniques", WB2JSJ

1545-1645 SPREAD SPECTRUM COMMUNICATIONS ....ROOM 2

Moderator: Jack Tiley, N7RWJ

SATURDAY FORUMS

0900 -1300 CONTEST ....ROOM 1

Moderators: Tim Duffy, K3LR & Scott Jones, WR3G
"Contest Operating Techniques", Bob Shohet, KQ2M
"The VE3EJ Contest Station", John Sluymer, VE3EJ
"Contest Video Essay", Don Dazo, WZ3Q
"Multi-Multi From a Rooftop, CQWW from VS6WO", Steve Dubberstein, VS6WO
"The Techniques of Operating Single Op Plus Packett", Charles Fulp, K3WW
"The K3LR Contest Station", Tim Duffy, K3LR
"A Tribute to Al Slater, G3FXB", Roger Western, G3SXW

0900 -1030 ARES .... ROOM 2

Moderator: Larry Solak, WD8MPV
Speakers: Joanne Solak, KJ3O, "Club Support of ARES"
David Kersten, N8AUH, Ohio Section Manager,
"Section Programs that Support ARES"

0900 -1100 WX SATELLITE ....ROOM 3

Moderator: Dave Latsch, N9MCE
"Geographic Projection of Weather Satellite Images", John DuBois, W1HDX
"The Basics of Setting Up A Weather Satellite Receive Station", Ed Murashie
"APT/GOES/HRPT Primer", Jeff Wallach, N5ITU
"NOAA Interpretation of Satellite Pictures for Meteorological Content", Mike Mogil
"Satellite Software Update", Dr. Tom Kelso

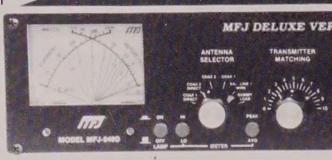
0900 -1030 COMBINED MARS ....ROOM 4

Moderator: Ray Collins, AGA3C, Chief, Air Force MARS
Keynote Speaker: Colonel B. J. Wilson, USAFR, N3DAK, AFA3BJ
LCDR Jim Houppert, NNN0NC, Dir., Navy-Marine Corps MARS
Robert L. Sutton, AAA9A, Dir. Army MARS

Continued on page 36.

Join the ham radio accessories party at the MFJ booths!

MFJ-949E Deluxe 300 Watt Tuner covers 1.8-30 MHz . . . plus you get peak reading meter, dummy load, antenna switch and balun for . . . $149.95



More hams use the MFJ- 949E than any other tuner in ham radio.

Why? Because no other 300 watt tuner gives you this combination of features and value

The MFJ-949E gives you a highly developed product with years of proven reliability and a reputation for being able to match about anything.

A lighted peak reading cross-needle meter shows you SWR, forward and reflected power. A 8-position antenna switch lets you select 2 coax lines, built-in dummy load, random wire or balanced line (direct or thru tuner). You also get a 4:1 balun for balanced line and 1.8-30 MHz coverage.

Hard-earned reputation

There's just no shortcut. MFJ is the most trusted name in the business. More hams trust MFJ tuners than all other tuners combined.

MFJ-949E

$149.95

Proven Reliability

MFJ has made more tuners for more years than anyone else. With the MFJ-949E, you get a highly devloped tuner with proven reliability.

Made in USA

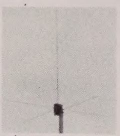
The MFJ-949E is made in USA. We're not an importer sending your money to a foreign country.

Your Very Best Value

The MFJ-949E gives you your very best value -- first-rate performance, proven reliability and the best guarantee in ham radio -- all from the most trusted name in antenna tuners. Don't settle for a copy-cat when you can own an MFJ original. Get yours today!

MFJ 5/8 Wave Ground Plane

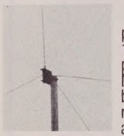
MFJ-1750 **$19.95**



You get a 300 watt 5/8 wave ground plane home antenna for 2 Meters that gives you the maximum possible calculated gain of any single element antenna. Shunt fed matching network for lowest possible SWR over the entire 2 Meter band. Plus it bleeds off unwanted static. Rapid-Tune-Radiator™ ceramic insulator, easy installation to any 1'' or 1½'' mast with single U-bolt.

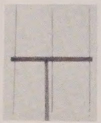
Improved 1/4 wave ground plane

MFJ-1740 **$12.95**



You get an improved 300 watt 1/4 wave ground plane for 2 Meters that'll bring up repeaters as well as or better than any 1/4 wave ground plane—even if it cost twice as much.

Portable 3 element beam for 2 Meters



MFJ's new portable 3 element beam for 2 Meters. Its unique design lets you set it up or take it down in seconds! Elements simply screw into the boom. It's easy to store and sturdy enough to use as your home station antenna.

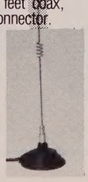
MFJ-1763 **$39.95**

Center, vertical and horizontal or end fed mount. Compact 2¾ foot boom gives you a calculated gain within 1dB of a four element Yagi. Lightweight aluminum, 2 lbs., easy mount to mast or tower leg.

MFJ-1730, Pocket Roll-Up, $14.95, 2 meter ½ wave vertical roll-up perfect for traveling.

Mobile Antennas

A. MFJ-1728, $24.95. Maximum Gain 5/8 wave Mobile Magnet-mount Antenna. 300 watts, 12 feet coax, PL-259 connector.



B. MFJ-1724B, $14.95. Dual Band Magnet-mount 144/440 MHz. ¼ wave on 2-Meter and gain on 440 MHz. 300 watts, 12 feet coax, PL-259 connector.

MFJ Coax Antenna Switches

$34.95 MFJ-1701

$21.95 MFJ-1702B

$59.95 MFJ-1704

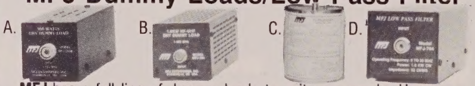
Select any of several antennas from your operating desk with these MFJ Coax Switches. They feature mounting holes and automatic grounding of unused terminals. They come with MFJ's one year **unconditional** guarantee.

MFJ-1701, $34.95. Six position HF antenna switch. SO-239 connectors. 50-75 ohm loads. 2 KW PEP, 1 KW CW. Black alum. cabinet. 10x3x1½ in.

MFJ-1702B, $21.95. 2 positions plus new Center Ground. 2.5 KW PEP, 1 KW CW. Insertion loss below .2 dB. 50 dB isolation at 450 MHz. 50 ohm. 3x2x2 in.

MFJ-1704, $59.95. 4 position cavity switch with lightening/surge protection device. Center ground. 2.5 KW PEP, 1 KW CW. Low SWR. Isolation better than 50 dB at 500 MHz. Negligible loss. 50 ohm. 6¼x4¼x1¼ in.

MFJ Dummy Loads/Low Pass Filter



MFJ has a full line of dummy loads to suit your needs. Use a dummy load for tuning to reduce needless (and illegal) QRM and save your finals.

A. MFJ-260B, $28.95. VHF/HF. Air cooled, non-inductive 50 ohm resistor. SO-239 connector. Handles 300 Watts. Run full load for 30 seconds, derating curve to 5 minutes. SWR less than 1.3:1 to 30 MHz, 1.5:1 to 150 MHz. 2½x2½x7 in.

B. MFJ-264, $64.95. UHF/VHF/HF 1.5 KW load. Low SWR to 650 MHz. Run 100 watts continuously, 1500 watts for 10 seconds. SWR is 1.1:1 to 30 MHz, below 1.3:1 to 650 MHz. 3x3x7 inches.

C. MFJ-250 1KW Dummy Load, $49.95, 50 ohm oil-filled. Low VSWR-400 MHz, 1KW CW or 2 KW PEP for 10 min. ½ KW for 20 min.; with oil. 7½x6-5/8. **MFJ-250X,** $29.95, with oil.

D. MFJ-704, $39.95. Low Pass Filter handles full legal power. 1.8-30 MHz, 52 ohms. Low insertion loss.

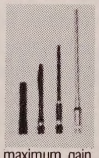
MFJ-701 RFI Free Choke Kit

MFJ-701 **$14.95**

(Package of 4)

MFJ-701 RFI Free Choke Kit makes it easy to eliminate common RFI problems. You simply wind the offending cable around MFJ's RFI suppressing toroid to get rid of RFI. Four square ferrite toroids formulated especially for eliminating RFI from .5 to 200 MHz. Each toroid separates into halves to make it easy to wind on all kinds of cables.

MFJ 'Pocket Linears'



MFJ-1710, $9.95. 3/8 wave 2 Meter. Pocket clip.

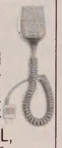
MFJ-1712, $14.95. Dual band. ¼ wave 2 meters **and** 5/8 wave 440 MHz.

MFJ-1714, $16.95. ½ wave 2 Meters. Significant gain over **any** rubber ducky. Halfwave dipole is shorter and lighter than 5/8 wave with more gain and less stress on rig.

MFJ-1718, Add this strong, flexible ''Shorty'' 4¼ inch rubber duck to your 2 Meter handheld. Its super efficient, high-Q helical wound radiator specially impedance matched for maximum gain.

MFJ Mini and Compact Speaker Mics

MFJ-285/287 **$24.95**



MFJ-284/286 **$24.95**

These new MFJ speaker/mics give you everything -- first rate electret mic element and wide range speaker for superb audio on **both** transmit and receive, earphone jack, PTT, pocket clip, lightweight retractable cord and one year guarantee -- and you get it all in a **tiny** mini 2 x 1¼ x ¼ inch package or compact 1¼''x2''x3''. Regular or ''L'' shaped connector available. *Come by* and try our Mini Mics: MFJ-283, MFJ-285, 285L, 285W, MFJ-287, 287L and our Compact Mics: MFJ-284 or 286 for ICOM, Yaesu, Alinco, Kenwood and others.

DXers' World Map Clock

MFJ-112 **$24.95** NEW

MFJ-112 DXers' World Map Clock. Push-buttons let you move east and west on the map display to the time at any QTH throughout the world. Time display hour/minute/second. Also display week, month, year and date of the week. User selectable for 12- or 24-hour display format.

12/24 Hour Clocks

$19.95 MFJ-108B

$9.95 MFJ-107B

Huge 5/8 inch bold LCD digits let you see the time from anywhere in your shack. Choose from the dual clock that has UTC and local display or the single 24 hour ham clock.

Mounted in brushed aluminum frame. Easy set. The world's most popular logging clocks. MFJ-108B 4½x1x2;MFJ-107B 2¼x1x2 in.

Deluxe CW Practice Oscillator

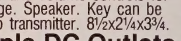
MFJ-557 **$24.95**

MFJ Deluxe Code Practice Oscillator has a Morse key and oscillator mounted together on a heavy steel base so it stays put on your table. Portable because it runs on a 9-volt battery (not included) or an AC adapter ($12.95) that plugs into a jack on the side.

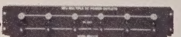
Earphone jack for private practice, tone and volume controls for wide range. Speaker. Key can be hooked to transmitter. 8½x2¼x3¾.

Multiple DC Outlets

MFJ-1116 **$44.95**



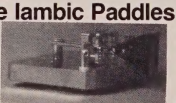
MFJ-1112 **$29.95**



New MFJ-1116 saves you space **and** money. Hook it to your 12 VDC power supply and get 8 DC outlets for connecting your accessories. RF bypassing, keeps RF out of power supply from DC line outlet. 13½x2¾x2½ in. **MFJ-1112,** like MFJ-1116 but without ON/OFF switch, voltmeter, and fuse. Has 6 outlets pairs.

Deluxe Iambic Paddles

NEW



MFJ-564 **$49.95**

MFJ-564 MFJ's Deluxe Iambic Paddles. Ideal for all MFJ keyers and memory keyers. Heavy Chrome base.

MFJ ENTERPRISES, INC. P.O. Box
(601) 323-5869; **FAX:** (601) 323-

Dayton Booths:

MFJ SWR Analyzers

MFJ's universal SWR Anaylzer™ covers 1.8-170 MHz–has built-in 10 digit LCD frequency counter. MFJ-249 **$199.95**

MFJ's Newest SWR Analyzer™ covers 1.8-170 MHz continuously. Built-in 10 digit LCD frequency counter. Ball-bearing vernier reduction drive on tuning capacitor makes it easy to set frequency precisely. Reading SWR is automatic. Plug-in your antenna, set your MFJ SWR Analyzer™ to the frequency you want and read our SWR. Three instruments in one--RF signal generator, a 170 MHz frequency counter and a SWR Analyzer. Handheld size. Operate with batteries or with optional AC adapter MFJ-1312B. 4x2½x6¾ inches.

MFJ-209, $109.95. Like the MFJ-249 less frequency counter. Has frequency output.

New Menu Driven Memory Keyer™

MFJ-492 **$99.95**

MFJ-492 *New* MFJ Menu Driver Memory Keyer. No keypad, no complex sequences to remember. Just follow the menu. From the menu you can save and play messages, decrement serial numbers, set speed, weight, sidetone, iambic, semi-auto, handkey, message queue, paddle command modes . . . turn on/off sidetone, transmitter tune, keying output on/off . . . select iambic A or B, reverse paddle, Morse trainer and store starting serial number. Commands can also be keyed from the paddle. Has 192 character in four soft sectored meesage memories. Expandable to over 8000 characters in eight message memories. Memories are lithium battery back-up. Front panel control for speed (5-100 WPM) and volume controls. Built-in speaker for side tone. Direct and grid block keying output. Uses 9V battery or optional 110 VAC with MFJ-1312B. 6½x2½x6¼.

MFJ-490, $164.95. Memory keyer/Bencher Combo. Has all the features of the MFJ-492 except memory expansion.

MFJ-490X, $109.95. Less Bencher paddle.

MFJ-490 **$164.95**

See us in Booths 062-064,083-085

FJ –*Making quality affordable* during the 1993 Hamvention

494, Mississippi State, MS 39762
6551; Toll-free 1-800-647-1800

62-64, 83-85

Here is the finest 3 KW Tuner money can buy with roller inductor, dummy load, new peak reading meter, antenna switch, balun plus more ... $349.95

The MFJ-989C is not for everyone. And not everyone can afford it.

However, if you do make the investment you get the finest 3 KW PEP tuner money can buy -- one that will give you a lifetime of use, one that takes the fear out of high power operation and one that lets you get your SWR down to absolute minimum.

The MFJ-989C is a compact 3 KW PEP roller inductor tuner with a lighted **peak** and average reading dual range Cross-needle SWR/Wattmeter.

With three continuously variable components - two massive 6 KV capacitors and a high inductance roller inductor - you get precise control over SWR and the widest matching range possible. It covers 1.8 to 30 MHz.

MFJ VERSA TUNER V
3 KILOWATT SERIES-ROLLER INDUCTOR
MODEL MFJ-989C
TRANSMITTER
ANTENNA
ANTENNA SELECTOR
INDUCTANCE
COAX
LAMP
POWER
PEAK
AVG
BAL LINE
DUMMY LOAD
COAX DIRECT
MFJ

MFJ-989C $\$349^{95}$

You get a **new** lighted **peak** and average reading Cross-needle SWR/Wattmeter.

You get a giant two core balun wound with teflon wire for balanced lines and a 6-position antenna switch with extra-heavy switch contacts.

The compact 10¾ x 4½ x 15 inch cabinet fits right into your station.

You get a 50 ohm 300 watt dummy load for tuning your exciter, a tilt stand for easy viewing and a 3 digits turns counter plus a spinner knob for precise inductance control.

Add $10 s/h.

Shortwave Regenerative Receiver Kit

MFJ-8100K $\$59^{95}$ **MFJ-8100K,** World Band Shortwave Radio Kit. You get everything including a rugged solid aluminum cabinet. Covers all or part of 75/80, 49, 40, 30, 31, 20,25, 22, 19, 17, 16, 15, 13 meters in five bands. Vernier reduction drive, bandswitch, volume, RF gain controls and two earphone jacks. Uses 9V battery. 7x7x2-3/8.

MFJ-8100W, $79.95. Wired and tested.

MFJ CW Transceivers

MFJ-9020 $\$179^{95}$ **MFJ-9020,** Compact CW Transceivers, superhet receiver, crystal filter, RIT, AGC, vernier tuning, sidetone, speaker, semi/full break-in, up to 5 watts.

MFJ-9040, 40-M 7.000-7.150MHz
MFJ-9030, 30-M 10.100-10.150MHz
MFJ-9020, 20-M 14.000-14.075MHz
MFJ-9017, 17-M 18.068-18.110MHz
MFJ-9015, 15-M 21.000-21.200MHz

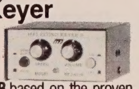
MFJ Keyer/Paddle

MFJ PACEMETER

MFJ-422B $\$134^{95}$ **Deluxe** MFJ Keyer/Bencher paddle combo makes a small, attractive unit. Iambic keying, adjustable weight, tone, front panel volume, speed controls, dot-dash memories, sidetone, speaker and auto. or semi-auto/tune modes. Use 9 V battery or 110 VAC with MFJ-1305, $12.95. For Keyer to mount on your Bencher paddle, order MFJ-422BX, $79.95.

MFJ Keyer

MFJ-401B $\$49^{95}$



MFJ-401B based on the proven Curtis 8044ABM IC Keyer chip lets you send iambic, auto., semi-auto. or manual with your squeeze, single-lever or straight key. Dot-dash memories, self-completing dots and dashes, jam-proof spacing, instant start, RF proof, 8-50 wpm, solid state keying. 9 V battery or 110 VAC with MFJ-1305, $12.95. 4x2x3½.

MFJ Morse Keyboard

MFJ-451 $\$89^{95}$ **MFJ-451** Morse Keyboard. Stand alone CW keyboard 200 character type ahead buffer and two 100 character message memories. Use 12 VDC or optional MFJ-1312B.

2-Knob Differential-T™ Tuner

The new MFJ-986 Differential-T™ 2-knob tuner uses a differential capacitor to make tuning foolproof and easier than ever. It ends constant retuning with broadband coverage and gives you minimum SWR at only **one** best setting. It covers 1.8-30 MHz.

MFJ-986 $\$289^{95}$

The roller-inductor lets you get your SWR down to absolute minimum. Current balun. The 3-digit turns counter lets you quickly return to your favorite frequency.

You get MFJ's new **peak** and average reading Cross-needle SWR/Wattmeter for accurate readings over a wider frequency range. It reads forward/reflected power in 200/50 and 2000/500 watt ranges. Meter lamp uses 12 VDC or 110 VAC with MFJ-1312, $12.95. (Add $10 s/h).

MFJ's Super Value Tuner

MFJ-941E $\$109^{95}$

MFJ VERSA TUNER II
MODEL MFJ-941E

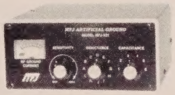
The new MFJ-941E gives you a 300 watt PEP tuner that covers everything from 1.8-30 MHz -- plus you get a cross-needle meter, antenna switch and balun . . . for an incredible $109.95. Meter lamp uses 12 VDC or 110 VAC with MFJ-1312, $12.95.

Antenna switch selects two coax lines (direct or thru tuner), random wire, balanced line or external dummy load. 4:1 balun. 1000 volt capacitors. Measures 10-5/8"x2-7/8"x7".

MFJ-941E lets you tune out SWR on dipoles, beams, inverted vees, verticals, mobile whips, random wires, balanced lines and coax antennas. Pick yours up today. You'll be glad you did.

MFJ Artificial RF Ground

MFJ-931 $\$79^{95}$



You can create an artificial RF ground and eliminate RF "bites", feedback, TVI and RFI when you let the MFJ-931 resonate a random length of wire and turn it into a tuned counterpoise. MFJ-931 also lets you electrically place a far away RF ground directly at your rig -- no matter how far away it is -- by tuning out the reactance of your ground connection wire. 7½x3½x7 in.

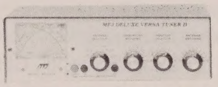
MFJ's Random Wire Tuner

MFJ-16010 $\$39^{95}$

INDUCTANCE
CAPACITANCE
MFJ ANTENNA TUNER

You can operate all bands anywhere with any transceiver when you let the MFJ-16010 turn any random wire into a transmitting antenna. Great for apartment, motel, camping operation. Install a wire anywhere! Covers 1.8-30 MHz. 200 watts PEP. Ultra small 2x3x4 in.

MFJ's New 300 Watt Tuner



MFJ-948 $\$129^{95}$

If you don't need a dummy load but want all the other features of the MFJ-949E, then choose the MFJ-948.

The MFJ-948 features a **peak** reading **lighted** cross-needle meter with built-in lamp switch, one year unconditional guarantee and is made here in the USA. Get yours today for only . . . $129.95.

MFJ Cross-needle Mobile Tuner

MFJ-945D $\$89^{95}$

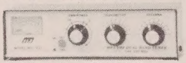
Don't leave home without this **mobile** tuner! Have an uninterrupted trip as the MFJ-945D extends your antenna bandwidth so you don't have to stop, go outside and adjust your mobile whip.

You can operate anywhere in a band and get low SWR. You'll get maximum power out of your solid state or tube rig and it'll run cooler and last longer.

Small 8 x 2 x 6 inches uses little room. Cross-needle SWR/ Wattmeter and convenient placement of controls makes tuning fast and easy while in motion. 300 watts PEP output. Efficient airwound inductor. 1000 volt capacitors. Mobile mount, MFJ-20, $3.00.

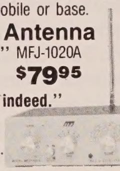
MFJ VHF or UHF Tuners

MFJ-921 $\$69^{95}$



MFJ-921 tuner covers both 2 Meters and the 220 MHz bands. **MFJ-924** covers 440 MHz. Built-in **SWR/Wattmeter.** 8 x 2½ x 3 in. 2-knob tuning convenient for mobile or base.

MFJ Indoor Active Antenna



"World Radio TV Handbook" says MFJ-1020 is a "fine value ... fair price ... best offering to date ... **performs very well indeed."**

MFJ-1020A $\$79^{95}$

Tuned circuitry minimizes intermod., improves selectivity. Use as preselector with ext antenna. 0.23-30 MHz. **Controls:** Tune, Band, Gain, On/Off/Bypass. 6x2x6 in. Use 9V battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95

Super Active Antenna

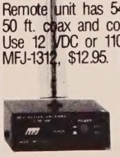
"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operate ... quiet ... excellent dynamic range ... good gain ... low noise ... broad coverage ... excellent choice."

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 0.5-30 MHz.

Receives strong, clear signals from all over the world. 20 dB attenuator, gain control. On LED. Switch two receivers and aux. or active antenna. 6x3x5 in. Remote unit has 54 inch whip, 50 ft. coax and connector. 3x2x4 in. Use 12 VDC or 110 VAC with MFJ-1312, $12.95.

MFJ-1024 $\$129^{95}$

MFJ Active Antenna



MFJ-1022 $\$39^{95}$ **MFJ-1022** 300 KHz to 200 MHz Active Antenna. Uses new noiseless feedback circuit gives you excellent low noise reception. Uses 9V battery or 110 VAC with MFJ-1312B.

MFJ Versatile 1.5 KW Tuner

MFJ-962C $\$229^{95}$ **MFJ-962C** lets you use your barefoot rig now and have the capacity to **add** a 1.5 KW PEP amplifier **later.** Covers 1.8-30 MHz.

You get two husky continuously variable capacitors for maximum power/minimum SWR. Lots of inductance gives you a wide matching range.

You get MFJ's **new peak** and average reading Cross-needle SWR/Wattmeter with a **new** directional coupler for more accurate readings over a wider frequency range. It reads forward/reflected power in 200/50 and 2000/500 watt ranges. Meter lamp uses 12 VDC or 110 VAC with MFJ-1312, $12.95.

Plus . . . 6-position antenna switch and teflon wound balun with ceramic feedthru insulators for balanced lines. 10¾ x 4½ x 15 in. $10 s/h.

MFJ's smallest Versa Tuner

$\$59^{95}$ MFJ-901B

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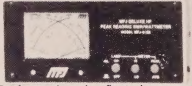
Covers everything from 1.8-30 MHz. Efficient airwound inductor. 4:1 balun.

HF Cross-Needle SWR/Wattmeter

MFJ-815B $\$69^{95}$



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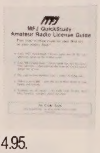

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SATURDAY FORUMS continued

0900 - 1230 VHF/UHF FORUM .... ROOM 5

Moderator: Joe Burke, WA8OGS
VHF/UHF Portable Operations:
"UHF Grid DX-pedition", Hal Perry, KC4YO, Bryan Snyder, WA8MZQ
"Frontier Grid Hoppers", John Walker, WZ8D, Byron Swainey, WA8NJR,
Jerry Becker, WA8R/9
Two Meter Moonbounce:
"W5UN 2 Meter EME Operating Experiences with a Video and Slides Presentation",
Dave Blaschke, W5UN
The "Chip and Dale Microwave Adventure":
"Getting on 10 GHz Wideband", Chip Taylor, W1AIM
"Getting on 10 GHz Narrowband", Dale Clement, AF1T

1000 - 1100 ELECTRICAL SAFETY DEMONSTRATION .... ROOM 6

Moderator: George Maurer and Tony Norman, Dayton Power & Light

1000 - 1045 GERITOL NET .... ROOM 7

Moderator: Harvey Frye, AA4HF
"Endorsement Breakdown", Frank Frank, NN8P
"Net Practices, Good and Bad", Harold Jones, N4OTC
"How to Assist NCS", Woody Booher, KJ9G
"A Good Antenna", Ron Keller, K9RK

1045 - 1130 OSSBN .... ROOM 2

Moderator: Will Wilson, WA8HED
Speakers: David Kersten, N8AUH, Ohio Section Manager
Will Wilson, WA8HED, Net Manager

1045 - 1145 YOUTH IN AMATEUR RADIO .... ROOM 4

Moderator: Carole Perry, WB2MGP
Speakers: Shauna Richards, N7NGT
Barry Kennedy, N2PNG
Eric Permut, KB0KQF
Matthew d'Alessio, KC6VIM
Alex Leynes, N9KYJ
Mike Placco, KB8LCC
Casey Haley, KB5UEO Age 8
Cody Haley, KB5WYJ Age 9

1100 - 1145 OHIO ARMY MARS .... ROOM 7

Moderator: Jack T. Shepherd, W8OMY/AAA9HC
"Ohio Army MARS - 1993 And Beyond", John Bracken, AAA0H/KA8CZA
MARS Director of Ohio
"Are You Living History", Jack Shepherd, AAA9HC/W8OMY
Army MARS Historian Coordinator

1115 - 1200 10-10 INTERNATIONAL .... ROOM 3

Moderator: Hugh Sullivan, WA4QZU

Continued on page 37.

SATURDAY FORUMS *continued*

1145-1245 YLRL .... ROOM 2

Moderator: Kay Eyman, WA0WOF
Speakers: "Telling the YL Story", Carol Hall, WD8DQG
"Pointers on DX QSLs", Jan O'Brien, K6HHD

1200-1330 DIGITAL DIGEST .... ROOM 4

Moderator: Dale Sinner, W6IWO
"The New CLOVER Digital Mode of Transmission", Ray Petit, W7GHM
"The New PACTOR Mode of Digital Transmission", Hans-Peter Helfert, DL6MAA

1215-1430 SLOW SCAN TV .... ROOM 3

Moderator: Don C. Miller, W9NTP
"Slow Scan TV Does not Have to be Expensive"
John Langner, WB2OSZ, Developer of PC Pasokon TV
"A New Digital Signal Processor (DSP) SSTV PC Scan Converter for
Multipath Minimization", Barry Sanderson
"Virtual Reality: It's Impact on SSTV", Dr Robert Suding, W0LMD

1330-1700 DX FORUM .... ROOM 1

Moderator: Steve Bolia, N8BJQ & Mike Wren, K8NW
Speakers: "DX Advisory Council", Bob Beatty, W4VQ
"DX Happenings", Bill Kennamer, K5FUV
"Botswana", Dave Heil, A2ZMN
"South Orkney", Brian Maloon, VP8CFM
"P5RS7", Ken Mizoguchi, JA1BK and Romeo Stepanenko, 3W3RR
"VP8SSI - Video", Tony Deprato, WA4JQS & Jerry Dubson, W6MKB
"AH1A - 1993", Mike McGirr, K9AJ
"Pacific Expedition", October 1992, Holger Y58IO and Tom Y31XO

1300-1430 FIREBIRDS .... ROOM 2

Moderator: Wallace Renn, WB8M
Speaker: Jack Walters, WA8UXN

1300-1445 WAYNE GREEN .... ROOM 5

Moderator: Wayne Green, W2NSD
"Wayne As Usual", Wayne Green, W2NSD

1300-1400 ELECTRICAL SAFETY DEMONSTRATION .... ROOM 6

Moderator: George Maurer & Tony Norman, Dayton Power & Light

1315-1445 AMPLITUDE MODULATION INTERNATIONAL .... ROOM 7

Moderator: Dale Gagnon, KW1I
"New Organization Goals", Don Chester, K4KYV, AMI Regional Director
"Announcing A New AM Organization- AM International", Dale Gagnon, KW1I

Continued on page 39.

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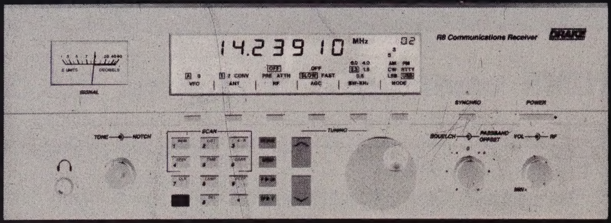

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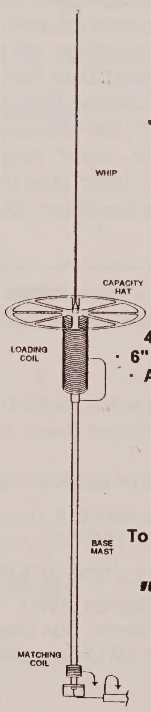

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SATURDAY FORUMS continued

1345-1515 QRP HOMEBREWING: ANYONE CAN DO IT....................ROOM 4

Moderator: Paula Franke, WB9TBU
Speakers: "Building from Kits", Bill Hickox, K5BDZ
"Building from Scratch, Using PC Boards", Fred Reimers, KF9GX

1445-1545 THE 1993 DAYTON HAMVENTION MEDIA FORUM....................ROOM 2

Discussion of the so-called "no-business rule". This will impact on the way radio amateurs interact with the working press. What hams can and cannot do will be discussed. Television and radio are not the only ways of getting the word about ham radio out to the general public. Monthly magazines designed for the non-ham public are another. Among the best are the giveaway 'airline magazines' like American Airlines The American Way. But how do you 'plant' an article in one of these periodicals?

And how do you reach the younger generation? How do you interest them in becoming hams and staying hams? An expert in that area is 15 year old Sammy Garrett, AA0CR, who will be on hand to answer any questions you might have.

Moderator: Bill Pasternak, WA6ITF, KTTV/Fox Television, Los Angeles
Speakers: Bryan "Keith" Glispie, WA6TFD, KTTV/Fox Television, Los Angeles
Steve Mansfield, N1MZA, Public Information Manager: ARRL
Steve Mendelsohn , WA2DHF, ARRL Hudson Div Dir. & ABC New York
Rich Moseson, NW2L, Producer/Director: CQ Video Production Div. of CQ Communications Corp.
Richard S. "Sammy" Garrett, AA0CR,15 year old independent writer for numerous ham radio publications.
1991 Westlink Report Young Ham of the Year.
Linda Reeder, N7HVF

1445 - 1700 AMATEUR TV (Fast Scan ATV)....................ROOM 3

Moderator: Tom O'Hara, W6ORG
Speakers: "Getting Started in Amateur Television", Bill Parker, W8DMR
"AA0P/ATV at the Edge of Space", Dave Clingerman, W6OAL
and Jack Crabtree, AA0P

1500 - 1700 AMSAT....................ROOM 5

Moderator: William Tynan, W3XO, AMSAT-NA President
"Phase 3-D...The Satellite for All Amateurs"
Dick Jansson, AMSAT V.P. Engineering
"Using the Amateur Radio Satellites of Today...and Tomorrow"
Keith Pugh, W5IU, AMSAT V.P. Operations
"The Simplicity of Mode S", Ed Krome, KA9LNV

1500 - 1600 ELECTRICAL SAFETY DEMONSTRATION....................ROOM 6

Moderator: George Maurer & Tony Norman, Dayton Power & Light

Continued on page 41.

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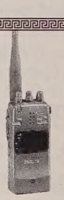
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SATURDAY FORUMS *continued*

1500-1700 REPEATER COORDINATION .... ROOM 7

Moderator: Ken Enenbach, KC0WX
"Repeater Linking in America"
Dave Shiplett, AC4MU
George Diletto, KD0RW
Paul Gilbert, KE5ZW
Ken Enenbach, KC0WX
Ralph Fowler, N4NEQ

1530-1700 TRANSMATCHES, FEEDERS AND SWR .... ROOM 4

Moderator: Curt Davis, W9PTA
Speaker: Peter Chadwick, G3RZP, President of Radio Society of Great Britain

1600-1700 MID CARS .... ROOM 2

Moderator: Carl Lamonica, KA9V
"Nets and Public Service", Carl LaMonica, KA9V
"Awards for Outstanding Service and Reorganization", Lloyd Stauffer, KB9J

SUNDAY FORUMS

0930 - 1100 THE WESTLINK/NEWSLINE STORY .... ROOM 1

Moderator: Bill Pasternak, WA6ITF
Speakers: Jim Hendershot, WA6VQP, Burt Hicks, WB6MQV,
and Joe Schroeder, W9JUV

0930-1100 BICYCLE MOBILE HAMS OF AMERICA .... ROOM 2

Moderator: Hartley Alley, NA0A
"HF While Bicycle-Mobile — Experiments and Observations", Ned Mountain, WC4X
"Pedaling My Way to the Hamvention", Russ Dwarshuis, KB8U
"Power Source Alternatives for the Cycling Ham", Gale Scholton, N8AVQ
"How to Rig an Antenna to Your Bike", Mike Nickolaus, NF0N
"Hints, Kinks, and Ideas from the Floor", Bob Pulhuj, KE8ZJ

0930-1100 QRP-ARCI .... ROOM 3

Moderator: Jim Fitton, W1FMR
"QRP Contesting", Randy Rand, AA2U
"Start A Local QRP Club", Jim Fitton, W1FMR

0930-1100 AUDIO FORUM .... ROOM 4

Moderator: Ken Glanzer, K7GCO
"Better Audio for Receiving and Transmitting", Ken Glanzer, K7GCO

0930-1030 FCC .... ROOM 5

Moderator: William T. Cross, WA3LTP
Speakers: John B. Johnston, W3BE, Chief, Personal Radio Branch

Continued on page 42.

SUNDAY FORUMS *continued*

1000-1100 ELECTRICAL SAFETY DEMONSTRATION .... ROOM 6

Moderator: George Maurer and Tony Norman, Dayton Power & Light

1000-1100 NEC-ANTENNA .... ROOM 7

Moderator: Robert Haviland, W4MB
"Using the Big Antenna Analysis Program", Robert Haviland, W4MB

1100-1230 ARRL .... ROOM 5

Moderator: Allan Severson, AB8P, Director Great Lakes Division
Speakers: George Wilson, W4OYI, President of ARRL
George Race, WB8BGY, Vice Director, Great Lakes Division
David Kersten, N8AUH, Ohio Section Manager
Bill Kennamer, K5FUV, Billy Lunt, KR1R, Jay Mabey, NU0X
Rosalie White, WA1STO

1115 - 1300 AMATEUR RADIO BULLETIN SERVICES - THE NEXT GENERATION: THE LET'S TALK RADIO NETWORK .... ROOM 1

Moderator: Blair Alper, KA9SEQ, President LTRN
Speakers: Hap Holly, KC9RP, V.P. LTRN, Founder of RAIN
Blair Alper, KA9SEQ, President LTRN
Stephan Anderman, WA3RKB
Host of "This Week in Amateur Radio" on LTRN and "Talking Amateur Radio", N. Y. Public Access Cable
George Bowen, N2LQS, Technical Director of "This Week in Amateur Radio" and "Talking Amateur Radio"
Vern Jackson, WA0RCR, Gateway 160 Meter Net
Duane Whittingham, N9ITM,
Host of "Duane's World" Program on LTRN

1115-1300 STATION GROUNDING FOR LIGHTNING PROTECTION .... ROOM 2

Moderator: Ken Rand, KF4MT

1115-1300 ANARC/SCANNER/SHORTWAVE LISTENERS .... ROOM 4

Moderator: Mike Schulsinger, N8QHV
"The Ideal Receiver", Bob Grove, WA4PYQ
"Hobby Uses of Near Field Receivers & Frequency Counters", Judd Sheets, WA4BUS
"Shortwave Broadcasting Topics", Ian McFarland

1115-1300 AMATEUR RADIO AND THE LAW .... ROOM 3
Moderator: James O'Connell, W9WU
"Panel Discussion of the Latest Legal Developments in Amateur Radio and Zoning Cases with Tips on How to Get your Antenna Up and Keep it Up" ❦

Measurements

FRIDAY

1930-2230 — PREAMP/CONVERTER NOISE FIGURE MEASUREMENTS

Sponsored by the Midwest VHF/UHF Society.

Measurements will be made in the area adjacent to the FM B*A*S*H in the Hara Conference Center. Measurements will be performed from 144 thru 1296 MHz. Door prizes for top Homebrew entries. Measurements conducted by: Bob French, N8EHA and Norm Alred, WA8EUU and members of the Midwest VHF/UHF Society.

SUNDAY

0930-1300 — VHF/UHF ANTENNA GAIN MEASUREMENTS (MEADOWDALE HIGH SCHOOL)

Sponsored by the Midwest VHF/UHF Society.

Find out the "real" gain of your 144, 432, and 1296 MHz antennas. Homebrew and commercial category for each band. Prizes will be awarded. NOTE: Free shuttle bus service runs frequently from Hara Arena to nearby Meadowdale High School track/football field.

Measurement Team:	Bruce Lundy, KA8EDE Gerd Schrick, WB8IFM

Other Members of the Midwest VHF/UHF Society

Front Cover —
Amateur Radio ... More Than A Hobby!

DAYTON
Hamvention '93
HARA ARENA
CONFERENCE AND
EXHIBITION CENTER
DAYTON, OHIO
... More Than a Hobby!

Photos, top to bottom:

Hurricane Iniki; Kauai, Hawaii
Red Cross working using 2 Meter station and Dick Atwood, KB7IO. *Photo credit to Robert Schneider, AH6J.*

Hurricane Andrew, near Miami Community College; Homestead, Florida.
Solar back up power; Bill Young, KA4VYH. *Photo credit Michael Cavalera, KB2MLY*

Tornado in Arcanum, Ohio
DARA Van with Frank Schwab, W8OK; Mike Kiser, N8VDB. *Photo credit to Ron Moorefield, W8ILC.*

Photos courtesy of ARRL. Photo previously appeared in QST, December 1992 and February 1993 issues.

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1993 Hamvention Forum Schedule

DAYTON Hamvention®

FRIDAY – APRIL 23

TIME	ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7
1300	AMSAT 1300-1445	Exciting Way to Use Ham Radio in the Classroom 1300-1430	Alternate Activities *"Make-it & Take it" Free* 1300-1645 *(See Separate Schedule for Saturday and Sunday Activities)*	Packet Radio 1300-1645	Antennas 1300-1645		International Hungarian Amateur Radio Club 1300-1500
1400		Ham Radio BBS Prodigy 1445-1530				Electrical Safety Demonstration 1400-1500	
1500	County Hunters 1500-1645	Spread Spectrum Communications 1545-1645					Operating Techniques for the New or Inexperienced Ham 1515-1645
1600							
1700							

SATURDAY – APRIL 24

TIME	ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7
0900	Contest 0900-1300	ARES 0900-1030	WX Satellite 0900-1100	Combined MARS 0900-1030	VHF/UHF Forum 0900-1230		
1000		OSSBN 1045-1130		Youth in Amateur Radio 1045-1145		Electrical Safety Demonstration 1000-1100	GERITOL Net 1000-1045
1100		YLRL 1145-1245	10 –10 International 1115-1200				Ohio Army MARS 1100-1145
1200			Slow Scan TV 1215-1430	Digital Digest 1200-1330			
1300	DX 1330-1700	Firebirds 1300-1430		QRP Anyone can do it! 1345-1515	Wayne Green 1300-1445	Electrical Safety Demonstration 1300-1400	Amplitude Modulation International 1315-1445
1400		Media Forum 1445-1545	Amateur TV *(Fast Scan ATV)* 1445-1700				
1500				Transmatches, Feeders, & SWR 1530-1700	AMSAT 1500-1700	Electrical Safety Demonstration 1500-1600	Repeater Coordination 1500-1700
1600		MID CARS 1600-1700					
1700							

SUNDAY – APRIL 25

TIME	ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7
1000	The Westlink/Newsline Story 0930 -1100	Bicycle Mobile Hams of America 0930 -1100	QRP - ARCI 0930 -1100	Audio Forum 0930 -1100	FCC 0930 -1030	Electrical Safety Demonstration 1000 -1100	NEC - Antenna 1000 -1100
1100	Amateur Radio Bulletin Services "The Next Generation" 1115 -1300	Station Grounding for Lightning Protection 1115 -1300	Amateur Radio & the Law 1115 -1300	ANARC Scanner/shortwave Listeners 1115 -1300	ARRL 1100 -1230		
1200							
1300							

1993 Hamvention Forums Schedule

Alternate Activities

DAYTON Hamvention®

ALTERNATE ACTIVITIES...

Hi! Glad you could join us. Stop in and visit with us on Friday, April 23 at Hara Arena in Room 3 between 1:00 and 4:45 p.m. We'll have some crafts to do (at no additional charge - but you do need a general admission ticket) and your pre-registration schedules wil be ready to pick up. Don't forget about Saturday and Sunday classes at Meadowdale.

THANKS!

Karen, Cheryl, Janet, Pauline,
Jan, Maxine, Carolyn and Jenny.

SEE SCHEDULE BELOW.

Friday, April 23 1:00-4:30 P.M.
Make It & Take It, Room 3 at Hara Arena

Saturday, April 24 9 A.M. to 12 Noon - 2 to 4 P.M.

Sunday, April 25 9 A.M. - 12 Noon
Meadowdale High School, See Listing on Page 47.

LUNCHEONS AT MEADOWDALE H. S. ($8.00 EACH)

Saturday, April 24 (Noon to 2:00 P.M.)

1/4 Baked Chicken, Scalloped Potatoes, California Blend, Garden Tossed Salad, Rolls, Muffins & Butter, Coffee, Ice Tea or Milk, Cake.

Door Prize Drawings - In Cafeteria following luncheon. You must be present to win. Luncheon ticket is used for this prize drawing.

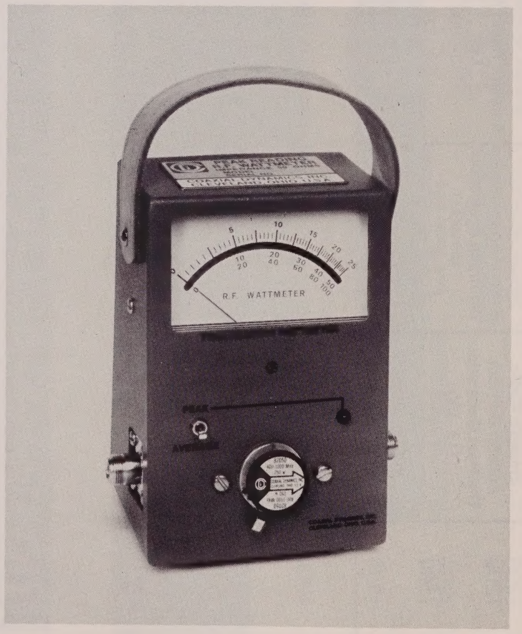
Sunday, April 25 (12:30 to 1:30 P.M)

Cup of Potato Soup with Grated Cheese, Bacon Bits and Chopped Green Onions, Whole Tomato Stuffed with Chicken Salad, Carrot and Celery Sticks, Crackers, Assorted Mini Muffins & Butter, Coffee, Tea or Milk, Brownie

Door Prize Drawings - In Cafeteria following luncheon. You must be present to win. Luncheon ticket is used for this prize drawing.

1:30 P.M. Return to Hara Arena

Thanks for coming - see you next year!



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Model 83000-A Peak and Average Reading Wattmeter is similar in appearance and operation to our standard Model 81000-A. With a flip of a switch, the **Model 83000-A** inserts a peak reading amplifier between the elements and the meter, and converts from an average reading to a peak reading wattmeter.

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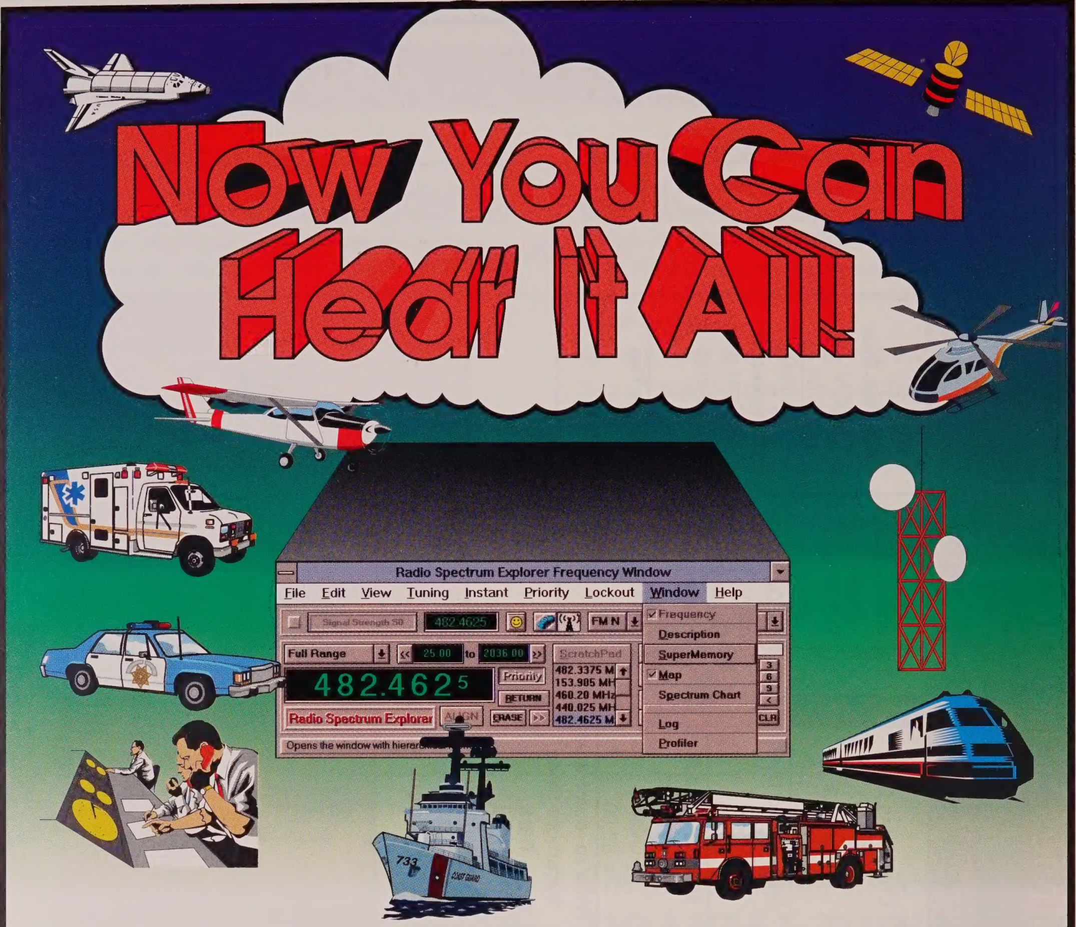
1993 Alternate Activitivies Schedule - Meadowdale High School

SATURDAY - APRIL 24

9:00 - 10:30	10:30 -12:00	12:00 - 2:00	2:00 - 4:00
Mini Bread Cloth CC - Stitch ROOM 1 $3.00 **Stained Glass in a Frame** ROOM 4 $3.00 **Silk Screen Stationery** ROOM 5 No charge **Coffee & Donuts** Cafeteria No charge	**Holiday Bell Pull** ROOM 1 $1.00 **Tole Painting** ROOM 6 $2.00 **Dreamcatcher** ROOM 7 $2.00 **Marcy Elter** "Women's role in traditional native culture" ROOM 8 No Charge **Elaine Dickman** No salt cooking with Herbs ROOM 9 No Charge	Luncheon and Door Prizes. You must be present to win!	**Christmas Door Swag** ROOM 2 $3.00 **Muslin Rag Doll** ROOM 1 $3.00 **Maxine's Black Sweatshirt** ROOM 3 $2.00 **What to look for at Sycamore State Park** ROOM 8 No charge **BINGO!!** No Charge
Maxine's Black Sweatshirt ROOM 3 $2.00			
Paper Twist Basket ROOM 2 $2.00			

SUNDAY - APRIL 25

9:00 - 10:30	10:30 - 12:00	12:00 - 2:00
Battenburg Lace Angel ROOM 2 $1.00 **Coffee, Donuts & Sunday Paper** Cafeteria No charge	**Victorian Bear** ROOM 2 $2.00 **Ron Toth Chiropractor** ROOM 8 No charge	Luncheon and Door Prizes. You must be present to win!
Log Cabin Quilted Pillow Top **ROOM 3** $4.00		
Rag Hot Pad **ROOM 1** $3.00		
Program subject to change without notice		


Now You Can Hear It All!
Radio Spectrum Explorer Frequency Window
File
Edit
View
Tuning
Instant
Priority
Lockout
Window
Help
Signal Strength S0
482.4625
FM N
Full Range
25.00
to
2036.00
ScratchPad
482.462⁵
Priority
RETURN
482.3375 M
153.905 MH
460.20 MHz
440.025 MH
482.4625 M
Radio Spectrum Explorer
ALIGN
ERASE
Opens the window with hierar
✓ Frequency
Description
SuperMemory
✓ Map
Spectrum Chart
Log
Profiler
3
6
9
<
CLR
733
COAST GUARD

Radio Spectrum Explorer for Windows is unlike any radio you've ever seen before.

There´s more to listen to than ever before with your scanner or communications receiver. But chances are you´re not even coming close to hearing it all, because radios are a lot harder to use than they need to be. While you think in terms of *what* you are hearing or want to hear, you tune your radio using arcane frequency and memory numbers.

Explorer software creates a new Windows-based monitoring environment, using fundamentally new patent pending "content-based" radio tuning techniques.

Explorer will...

✔ help you find the most interesting stuff
✔ let you hear more with less work
✔ organize your listening interests
✔ make monitoring lots more fun and exciting!

With Explorer, you´ll monitor all the radio services at VHF and UHF more effectively than ever before possible. Explorer works with Windows-based personal computers and the most popular scanners and receivers. Call today to order Radio Spectrum Explorer for Windows, or to request more information.

acc advanced computer controls, inc.

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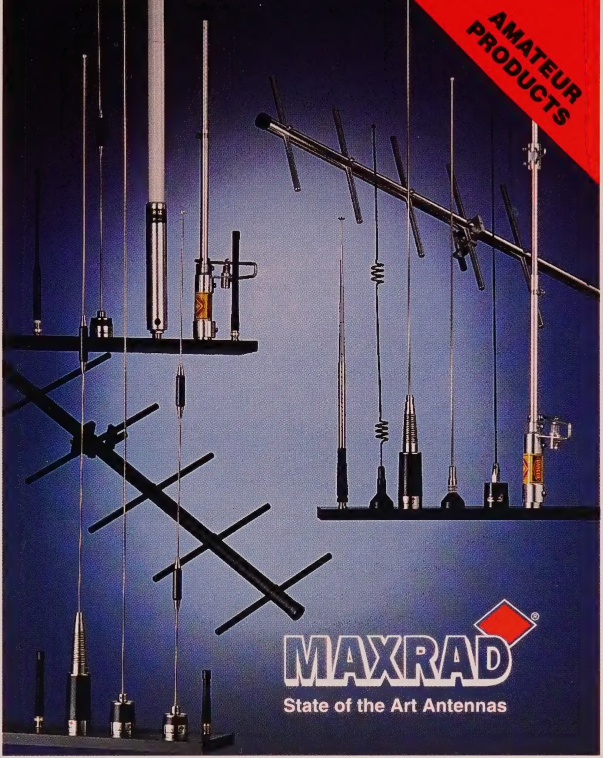

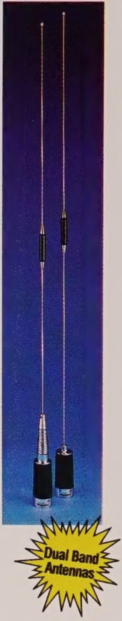

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Some replacement battery manufacturers misrepresent their product.

- All replacement battery packs should have stated on their labels the **voltage** and **capacity** of the battery packs they represent.
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- DON'T HESITATE to ask the AFTERMARKET BATTERY MANUFACTURER to state which cells they are using. For example: Some manufacturers state they have a Kenwood Equivalent to the PB-14 only at 400 mAh as opposed to Kenwood's 350mAh. DON'T HESITATE TO ASK WHICH CELL THEY ARE USING. WE HAVE A 14(S) THAT IS APROXIMATELY 1-1/4" LONGER THAN KENWOD'S PB -14, BUT OURS IS 800mAh
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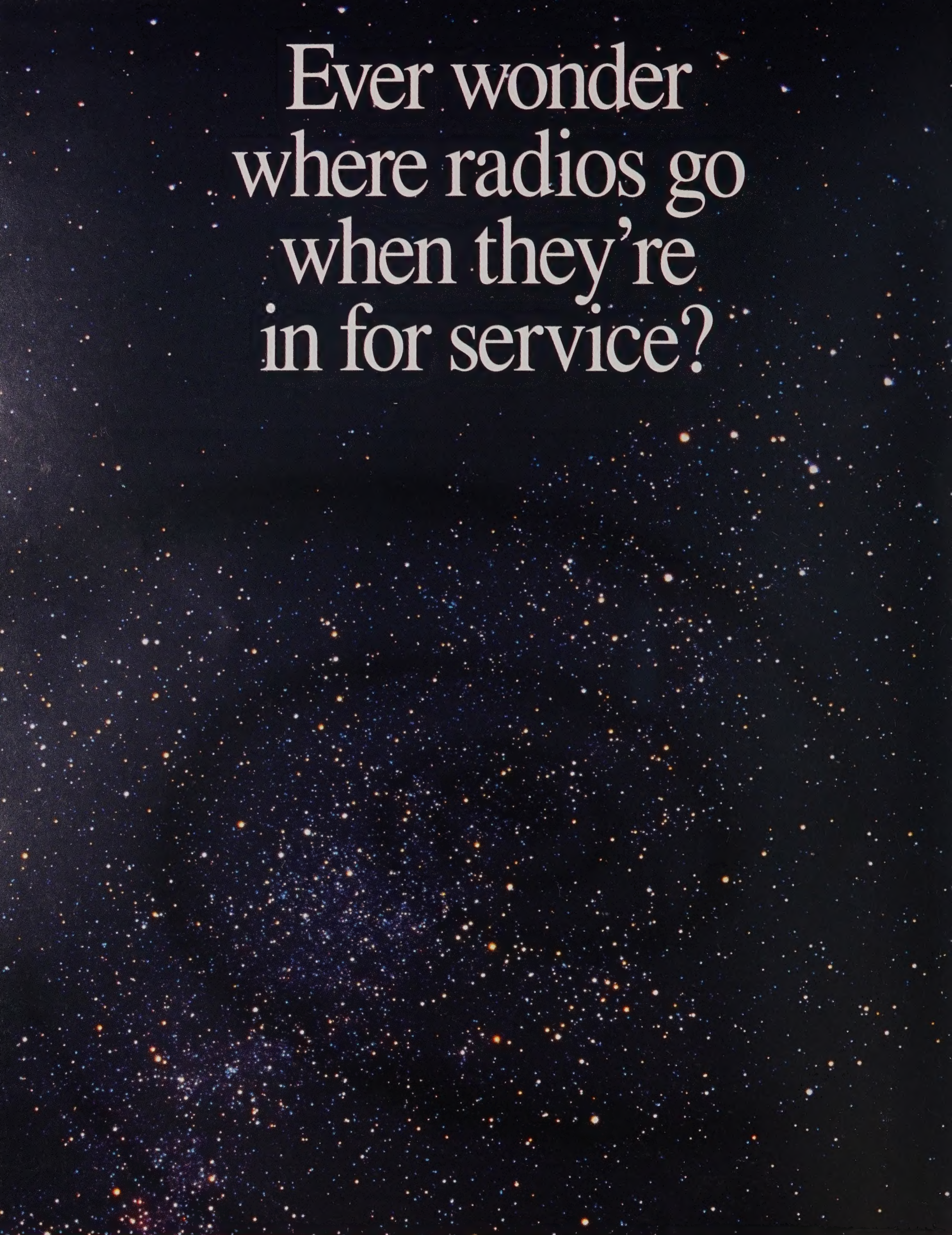
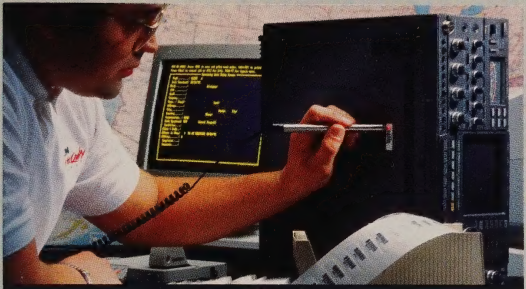

Ever wonder where radios go when they're in for service?

Icom Service gets you back on the air in days instead of weeks…guaranteed!



Day 1

Your radio and all accessories are immediately checked in and bar-coded. Icom developed this computerized system to give us instant access to your comments, time stamp your radio, and enable us to track it every step of the repair process so it never gets lost in a "black hole".

Day 3

Icom's factory technicians are avid hams themselves and most have FCC Commercial Licenses, plus years of experience. You *know* they'll fix your radio right the first time.

Day 5

Icom has a wide range of parts available on-site in each of our four regional service centers. All parts are bar-coded and ordered weekly to make sure we can repair your radio on time, every time.

Day 7

Icom carefully packs your radio and all accessories in your original box, and ships it immediately so you can be back on the air in just days.

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The minute your radio arrives at our Vancouver, B.C., Atlanta, Orange County, or Bellevue, Washington service centers, we go to work. Within 7 days, your radio is repaired and on its way back to you. With zero hassles. Zero excuses. And zero delays. Guaranteed*.

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For more information contact your local dealer or call our free Brochure Hotline: **1-800-999-9877**

ICOM America, Inc. 2380 116th Ave. N.E., Bellevue, WA 98004
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Experience the Quality.®

*In the unlikely event a repair isn't performed in 7 days, we'll give you $20 credit towards your next purchase of any Icom radio. 7 days excludes time awaiting customer repair approval.

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No buttons, no hassles, pure fun!

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Here's all you do:

1. Dial 1-800-999-9877.
2. Leave your name, address, and the name of the product you're interested in – in this case, the 2iA.

Within 24 hours, we'll send you REAL info about the 2iA: how and why it was designed, spec sheets, field tests, reviews – everything you need to decide if this is the radio for you.

Give it a try! See how easy it is to communicate with the world leader in amateur radio communications.

I-COM LINE: uniquely ICOM!

The NEW! *IC-2iA*

No buttons, no hassles, pure fun!

Tiny on the outside, lots of radio on the inside. We challenged our designers to build the smallest, lightest, *skinniest* handheld ever – but without sacrificing the big-radio features. Putting a big radio in a small space meant that something had to go.

Not the big display, of course.

Not the super audio speaker.

And we obviously couldn't cut corners on features and still call it an ICOM.

So we got rid of the buttons.

When you really think about it, you want what buttons do, not necessarily the buttons themselves, right?

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P Series
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P3AT - 220MHz
P4AT - 440MHz

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2SAT - 2M
3SAT - 220MHz
4SAT - 440MHz

GAT Series
2GAT - 144MHz
4GAT - 440MHz
12GAT - 1.2GHz

0AT Series
02AT - 2M
03AT - 220MHz

Dual Band
W2A - 2M/440MHz
W21 - 2M/440MHz
X2A - 440MHz/1.2GHz
24AT - 2M/440MHz

AT Series
2AT - 144MHz

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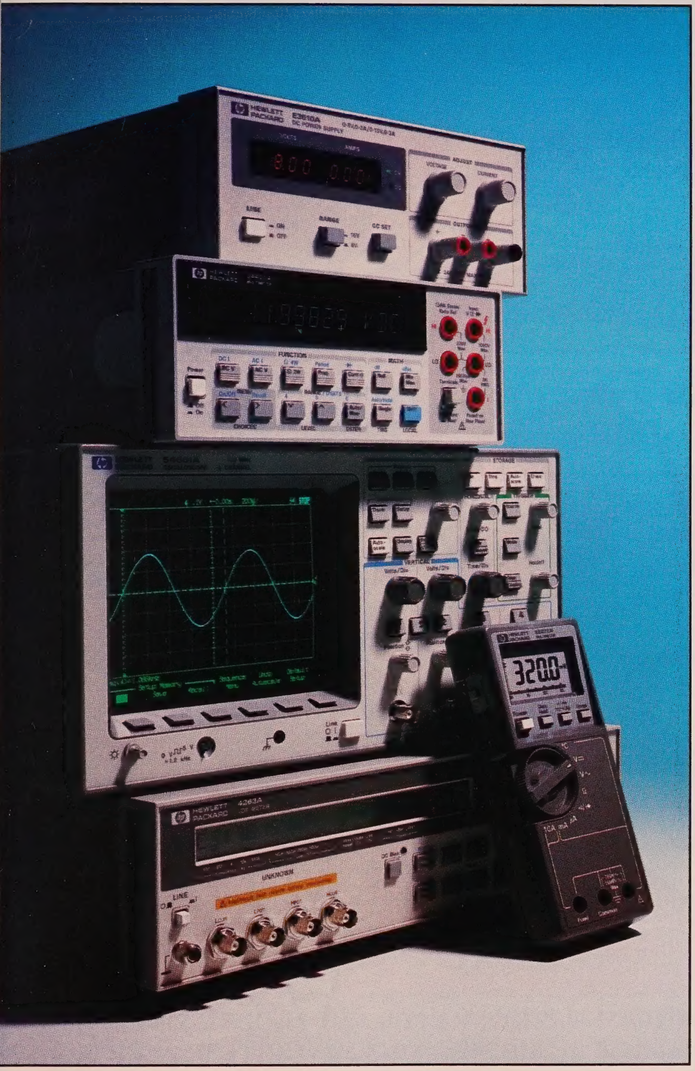
Within budget. Without compromise.



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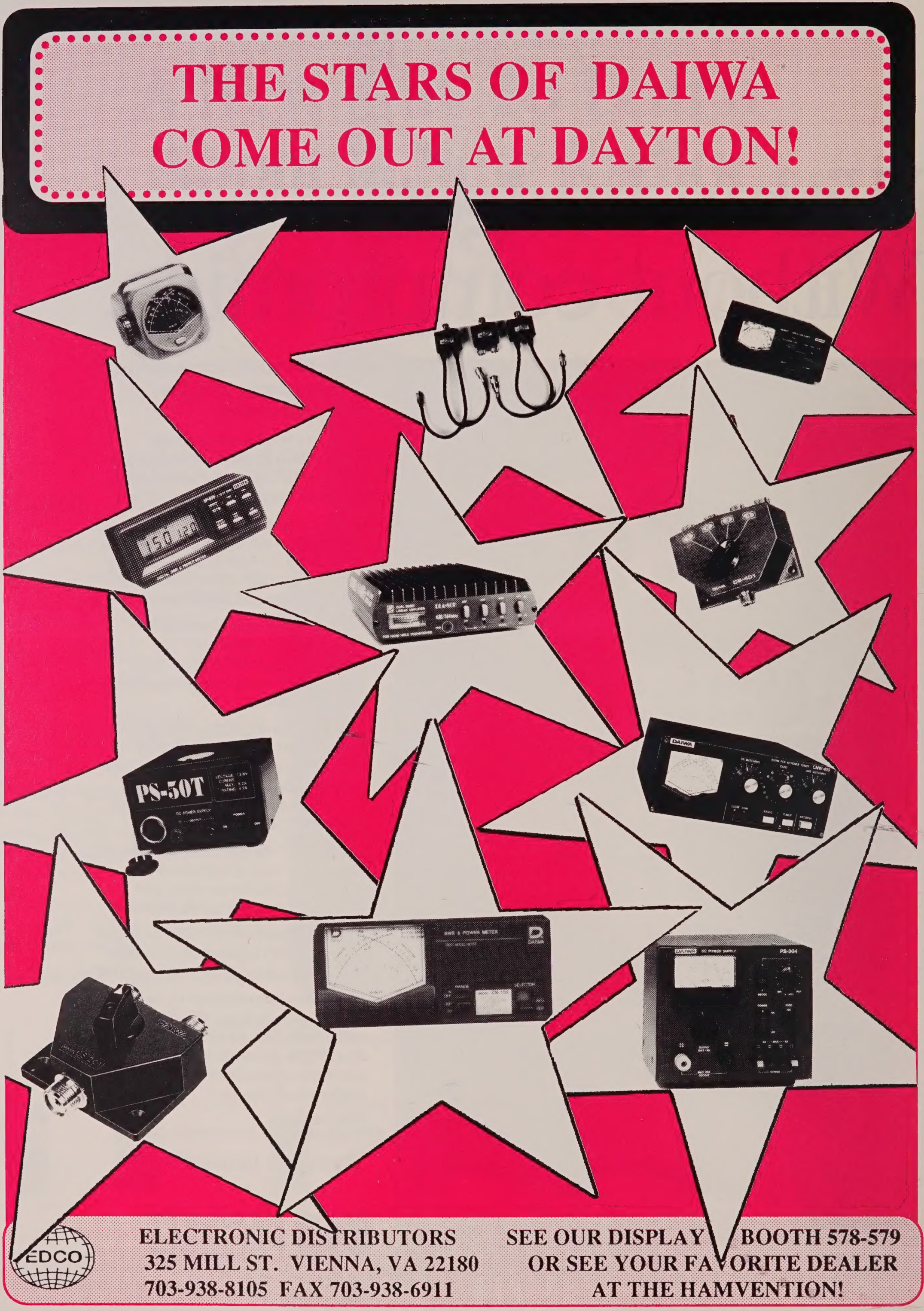

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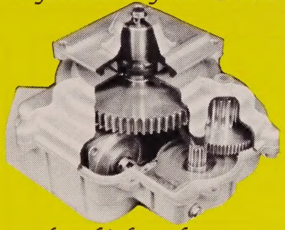
Gone are the days when the old standbys were good enough. Today's larger, high performance antennas and stacked arrays demand more. You need a high performance rotator, anything less can lead to disastrous, expensive consequences!

Create rotators are built to meet the expectations and demands of today's system. Motor and gear requirements are Not the Same. Why Should They Be? Create offers: Heavy Duty Alloy Castings, Oversized Machined Steel Gears, not pressed metal or nylon. Worm Gear Drive for smooth, trouble free stopping and much more.



If you are planning to turn modern high performance antennas, forget 'Ye Olde Rotor' and experience first hand, in Booth 577 why all rotators are not Created equal!

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Call or stop by your favorite dealer today!

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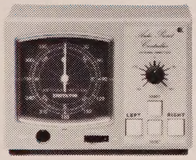
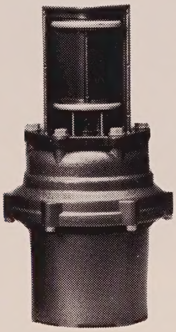
EMOTO ROTATORS WIN BLUE RIBBON AWARD

Why are more and more DXer's, EME and large stacked array users giving Emoto their vote as the "BEST". It's because Emoto is serious about building rugged, advanced design rotators with features such as these: Planetary Gear Drive System, Heavy-Duty Die Cast Machined Alloy Housings and Carbon Steel Gears, not Pressed Metal or Nylon. Powerful, Positive Friction Brake System with Fully Automatic Set and Release Feature....No More Broken Housings From Outdated Wedge Systems! Attractive, Easy to Read Backlit 360° Circle Controllers. Built-in Computer Control compatibility. Multi-Tapped Power Transformer for 120 or 240VAC Operation. Also included as standard: rustproof mounting hardware, heavy-duty mast clamps, universal couplings, connectors and weatherproofing boots.





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M2 Enterprises presents

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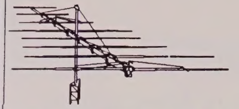
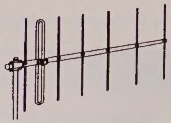




HF ANTENNAS

6-10LP5	log periodic	$ 1099.00
7-10-30LP8	Skiplog per	$ 1099.00
10-30-LP8	log periodic	$ 999.00
40M1L	dipole	$ 299.00
40M2L	Yagi	$ 499.00
40M3L	"	$ 749.00
40M4L	"	$ 969.00
20M4	"	$ 649.00
20M6	"	$ 899.00
18M3	"	$ 249.00
10M7	"	$ 499.00
15M6	"	$ 499.00
15M4	"	$ 369.00
10M4	"	$ 269.00
10M7	"	$ 499.00

70 CM

EB-432	Omni horiz.	$ 109.00
420-50-5	Yagi	$ 79.00
420-50-11	"	$ 99.00
440-18	"	$ 109.00
436-CP30	"	$ 229.00
432-9WL	"	$ 149.00
432-13WLA	"	$ 229.00

902

902-14WL	Yagi	$169.00

NOTES ON M^2 CONSTRUCTION

Tubular elements are 6063-T832
HF booms are generally 6061-T6
VHF and above are 6063-T832
Machined parts are 6061-T6 .
Rod elements are 6061-T6.

All driven element coax connectors are sealed inside of a machined housings and connectors use 'O' Ring seals. Our designs give you years of maintenance free high performance.

6 METERS

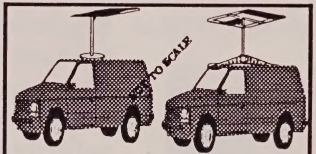
6M SQLOOP	omni	$ 97.00
6M5	Yagi	$ 149.00
6M7	"	$ 229.00
6M2WL	"	$ 379.00
6M2.5	"	$ 449.00

222

222-7EZ	Yagi	$ 79.00
222-10EZ	"	$ 89.00
222-7WL	"	$ 189.00

23 CM

35CM35EZ	Yagi	$ 119.00
23CM17EZ	Yagi	$ 89.00
13CM40EZ	Yagi	$ 99.00



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Some Fine M^2 Dealers!

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Oklahoma Comm Center
RF Enterprises
HRO
Henry Radio
S.S.B. Electronics
Roburn Agencies, Inc.
Radioware Corp.
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2 METERS

2MSQLOOP	Omni	$ 59.00
2MSQMAGMT		$ 24.95
2M SQ STACKIT		$ 59.00
EB-144	Omni horiz.	$ 119.00
2M4	Yagi	$ 59.00
2M7	"	$ 105.00
2M12	"	$ 129.00
2M5WL	"	$ 169.00
2M18XXX	"	$ 219.00
18XXXKIT	"	$ 69.00
2M8WL	"	$ 289.00
2MCP14	"	$ 149.00
2MCP22	"	$ 225.00
2M5-440XP	"	$ 149.00

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MT-3000A	El Rot.	$ 769.00
MT-4000A	El Rot	$1045.00
ORION 2300	Az Rot	$ 999.00
6M 2 PRT	Pwr div.	$ 79.00
2M 2 PRT	"	$ 59.00
2M 4 PRT	"	$ 79.00
70CM 2 PRT	"	$ 59.00
70CM 4 PRT	"	$ 79.00
23CM 2 PRT	"	$ 79.00
23CM 4 PRT	"	$ 79.00
VHF-50	PHASE CBL	$ 39.00
UHF-50	PHASE CBL	$ 35.00

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Having done numerous amateur and commercial antenna designs since 1971, we find it now easier than ever to design and produce reliable antennas with the highest gain and best patterns on the market. Our customers soon become our "salesmen". Thanks for recognizing an outstanding product when you use one.

73, Mike K6MYC

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SGC

SG-230

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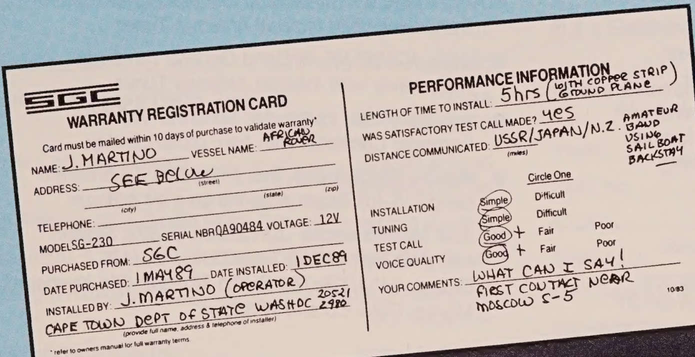
HF ANTENNA COUPLER
SSB, AM, CW & DATA
FAST-INTELLIGENT-ACCURATE
OPERATES WITH ANY HF TRANSCEIVER

The *Smartuner* high technology coupler intelligently tunes any length antenna (8 to 80 ft) in the HF band. The unit will operate with any HF transceiver within its' specifications. The *Smartuner* switches 64 input and 32 output capacitance combinations plus 256 inductance combinations in a "pi" network resulting in over a half-million different ways to ensure a perfect match for the transceiver. And, *it remembers the frequency and the tuning values* and will re-select these values in less than 10 ms next time you transmit on that frequency.



SGC

WARRANTY REGISTRATION CARD

Card must be mailed within 10 days of purchase to validate warranty*

NAME: J. MARTINO VESSEL NAME: AFRICAN ROVER

ADDRESS: SEE BELOW (street) (city) (state) (zip)

TELEPHONE:

MODEL SG-230 SERIAL NBR QA90484 VOLTAGE: 12V

PURCHASED FROM: SGC

DATE PURCHASED: 1 MAY 89 DATE INSTALLED: 1 DEC 89

INSTALLED BY: J. MARTINO (OPERATOR)

CAPE TOWN DEPT OF STATE WASH DC 20521 2980

(provide full name, address & telephone of installer)

* refer to owners manual for full warranty terms

PERFORMANCE INFORMATION

LENGTH OF TIME TO INSTALL: 5 hrs (WITH COPPER STRIP GROUND PLANE)

WAS SATISFACTORY TEST CALL MADE? YES

DISTANCE COMMUNICATED: USSR/JAPAN/N.Z. (miles) AMATEUR BAND USING SAILBOAT BACKSTAY

Circle One

INSTALLATION [✓ Simple] Difficult

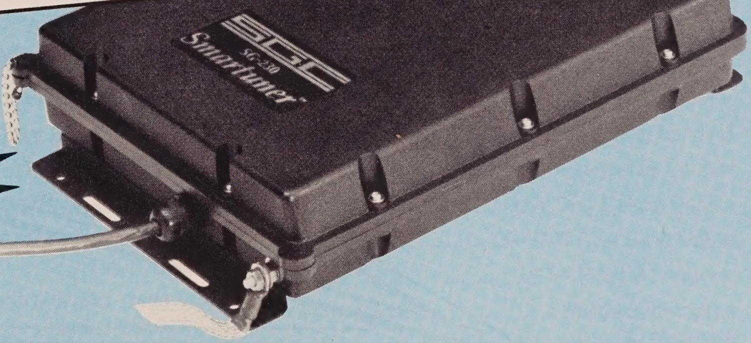
TUNING [✓ Simple] Difficult

TEST CALL [✓ Good] + Fair Poor

VOICE QUALITY [✓ Good] + Fair Poor

YOUR COMMENTS: WHAT CAN I SAY! FIRST CONTACT NEAR MOSCOW 5-5

10/83



SPECIAL HAM PRICE: $595.00

- **MICROPROCESSOR CONTROLLED**
- **NON-VOLATILE MEMORY**
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- **B.I.T.E. INDICATOR**
- **1.8 TO 30 MHZ RANGE**
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See us in Booths 564,565 We are a Hamvention Prize Donor

Major Prizes

The Dayton Hamvention is proud to present an outstanding array of prizes for 1993, representing approximately 125 exhibitors and other donors.

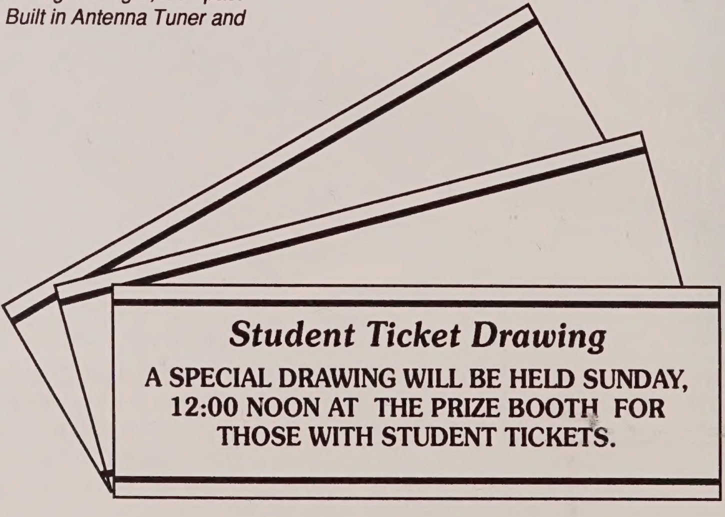
Prizes will be awarded hourly from 1300 Friday to 1200 Sunday.

Additional Bonus prizes will be awarded bi-hourly from 1300 Friday to 1100 Sunday. Please check the monitors located throughout the arena complex for winning ticket numbers.

All prizes not claimed by 1300 Sunday will be redrawn at 1400. You MUST be present in the Main Arena during this drawing to win.

The drawing for the Main Prizes will begin at approximately 1500 Sunday. You do not have to be present to win. Prizes not claimed during this drawing will be shipped to the winner at no charge.

- **Yaesu** *FT1000D HF Transceiver with FL7000 Linear Amplifier,SP-5 External Speaker, MD-1C8 Mic and YH-77ST Headphones Yaesu's "Dream Station"*
- **Yaesu** *FT736R 2 Meter/70cm All Mode Transceiver with SP-767 External Speaker, MD-1C8 Mic and YH-77ST Headphones*
- **Yaesu** *FT890/AT HF All Mode Transceiver with FP800 Matching Power Supply, SP-6 External Speaker, MD1C8 Mic and Mobile Mounting Bracket*
- **Kenwood** *TS850S Competition Class Transceiver with Automatic Antenna Tuner*
- **Icom** *IC737 HF All Band General Coverage Transceiver, Internal Antenna Tuner with SP-21 External Speaker, PS-15 Power Supply and SM-8 Desk Mic*
- **Kenwood** *TS450 S/AT Light Weight, Compact HF Transceiver with Built in Antenna Tuner and Power Supply*
- **Telex Communications, Inc** *TH-11DX 5 Band Beam Antenna with "Ham 4" Rotor*
- **Icom** *IC-737 HF All Band General Coverage Transceiver with Internal Antenna Tuner*
- **Icom** *IC-737 HF All Band General Coverage Transceiver with Internal Antenna Tuner*
- **acc:advanced computer controls** *RC-96 Repeater Controller with front panel display*
- **Mosley Electronics, Inc** *PRO-67B 7 Element 6 Band (10-40) Beam Antenna on a 24 ft Boom*
- **JDR Mircodevices** *JDR386SX 25Mhz System with 2Mb Ram, 40Mb Hard Drive, 1.44MB 3 1/2" Floppy, 14" 1024x768 SVGA Monitor, 101 Keyboard, Mouse, DOS 5.0 and Windows*



Student Ticket Drawing

A SPECIAL DRAWING WILL BE HELD SUNDAY, 12:00 NOON AT THE PRIZE BOOTH FOR THOSE WITH STUDENT TICKETS.

Bonus Prizes

At press time, we have commitments for over $110,000 in prize donations! We heartily thank all those who have donated prizes this year. The following Bonus Prizes will be drawn bi-hourly beginning at 1:00 P.M. Friday. You must claim these prizes by 1:00 P.M. Sunday.

Alinco	DJ-850T Dual Band HT
National Tower	BX-32 Tower Assy
Yaesu	FT-2400H VHF/FM Mobile Transceiver
Azden Corp.	AZ-61 6m Handheld Transciever
ICOM	IC-2SAT 2m Handheld
Yaesu	FT-415/25-B Handheld
Bird Electronic Corp.	Model 43P Wattmeter/Case
CQ Communications	Lifetime Subscription Popular Comm.
Yaesu	FT-415/25-B Handheld
Standard Amateur Radio Products	C168A 2 Meter HT
Telex Communications	DX-88 8-Band Vertical Antenna
PolyPhaser	Single Point Ground Protection System
Yaesu	G-5600B AZ-EL Medium Duty Rotor
CQ Communications	Lifetime Subscription CQ Magazine
Coaxial Dynamics Inc.	Model 81000-A Wattmeter/Case
Yaesu	FRG-8800 HF/VHF Gen Coverage Receiver
EDCO	DP-830 Digital SWR/Wattmeter
IICOM	IC-2Sat 2m Handheld
Midland	#73-005 VHF 2 Meter Handheld
Yaesu	FT-415/25-B Handheld
Missouri Radio Center	Yaesu FRG-100B General Receiver
Mosley Electronics	TA-33Jr WARC 10-20 Meter Beam
Yaesu	FT26/25 2m Handheld
OPTOelectronics Inc.	Model 2810 Frequency Counter
CQ Communications	LifetimeSubscription Computer Craft
P.W. Publishing Ltd.	Lifetime Sub/Practical Wireless
Yaesu	G-5600B AZ/EL Medium Duty Rotator
Alinco	DJ-600T Dual Band Mobile
Universal Radio Inc.	Yaesu FT-23 2m Handheld
P.W. Publishing Ltd.	Lifetime Sub/Practical Wireless
Yaesu	FT-470 HT Dual Band Transceiver
PolyPhaser	Single Piont Ground Protection System
CQ Communications	Lifetime Subscription CQ Magazine
R & L Electronics	ICOM IC229A 2m Mobile Transceiver
Mosley Electronics	TA-53M 10-20 Meter Beam
Yaesu	FT26/25 2m Handheld
SGC Inc.	SG-230 Controlled Antenna Tuner
ICOM	IC-3230A Dual Band Mobile
Yaesu	FT-415/25-B Handheld
OPTOelectronics	Model 2810 Frequency Counter
Standard Amateur Radio Products	C228A 144/220 MHz Twin Band H.T.
Vectronics Inc.	HTF 1500 Roller Tuner
CQ Communication	Lifetime Subscription Popular Comm.
Yaesu	FT-530 2M/70CM Dual Band HT
OPTOelectronics	Model 2810 Frequency Counter
Yaesu	G-1000SDX Heavy Duty Deluxe Rotator
Alinco	DR-570T Dual Band Mobile
Yaesu	FT-415/25-B Handheld
CQ Communications	Lifetime Subscription CQ Magazine
PolyPhaser	Single Point Ground Protection System
Yaesu	FT26/25 2m Handheld
Outbacker	Perth Mobile Antenna with Diamond K400 Mount
Mosley	TA33M 10-15-20 Meter 3 Element Beam

Prize Donors

Top Ten Prize Donors

WE WOULD LIKE TO EXTEND A SPECIAL THANKS TO OUR TOP TEN PRIZE DONORS FOR 1993.

1. Yaesu U.S.A.
2. ICOM America, Inc.
3. Mosley Electronics, Inc.
4. Kenwood U.S.A. Corporation
5. CQ Communication, Inc.
6. Buckmaster Publishing
7. Alinco Electronics, Inc
8. Telex Communications, Inc.
9. Amateur Communcations
10. Ramsey Electronics, Inc.

WE GREATLY APPRECIATE THEIR EXTRAORDINARY PARTICIPATION AND SUPPORT OF THE 1993 DAYTON HAMVENTION.

Be sure to stop by their booths and say "Thanks".

$1000.00 and over Prize Donors

acc:advanced computer controls, inc.
Alinco Electronics
Amateur Communications Magazine
Buckmaster Publishing
CQ Communications, Inc.
EDCO: Electronic Distributors Corp.
Hewlett Packard Co.
HR Bookstore
ICOM America, Inc.
JDR Microdevices
Kenwood U.S.A. Corporation
Midland Internationnal Corp.
Mosley Electronics, Inc.
PolyPhaser Corp.
Radio Shack, Div. of Tandy Corp.
Ramsey Electronics, Inc.
Standard Amateur Radio Products, Inc.
Telex Communications, Inc.
U. S. Robotics
Yaesu U.S.A.

WA8KZR Memorial

The Dayton Amateur Radio Association is saddened by the tragic and sudden death of our long-time associate, **Dave Beam, WA8KZR** who suffered a massive heart attack Friday evening, April 2, 1993 while driving to meet another Hamvention associate. In his fifteen year tenure with the Dayton Amateur Radio Association, Dave's magnitude of contributions included serving two terms as Vice President, as well as chairing various committees. His association with the Dayton Hamvention over the past seventeen years included serving as Director, Traffic Chairman and Chairman of Security.

Dave was a dynamic individual who took great pride in "working behind the scenes" and adding his support and extensive abilities to the many projects with which he was involved. Dave always had a way of making you smile and would always jump in and help with problems when things got tough. Amateur radio was Dave's life and his ambition was to serve others.

His community service involvement spread far beyond DARA. He was the Founder of the Treaty City Amateur Radio Club, served on the Board of Directors for Greenville's "Annie Oakley Days" festival, and served in various capacities on the Darke County Fair Board.

Dave organized the Civil Defense System in Darke County in the mid-70's that later evolved into the Emergency Management Association (EMA).

Dave played an extremely important part in relief and disaster assistance following the tornado that touched down in Arcanum, Ohio on November 22, 1992.

Dave was born August 31, 1941 in Greenville, Ohio and lived all his life in Darke County, Ohio. He is survived by his mother, Edith and brother, Steve,son and daughter-in-law Rick and Kathy Beam, and their three sons Brian, Jeremy and Matthew all of whom he cherished immensely. Dave's wife, Sally, preceded him in death in February 1993.

Other Donors

73 Amateur Radio Today
AMSAT
AMSOFT
ANLI CORP.
ARRL: American Radio Relay League
Alfa Electronics, Inc
antenna specialists co.
Antennas West
Atlantic Solar Products
Azden Corp
Azimuth Communications Corp.

Bird Electronic Corp.

C.A.T.S.
Cable X-Perts, Inc.
Coaxial Dynamics Inc.
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DB Computer Products
DX Engineering, Inc.
Debco Electronics, Inc.
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Donnux Shareware
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EQF Software
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GAP Antenna Products
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Hampute, Inc.
Heil Sound, Ltd.
Hi-Res Communications, Inc.
Hustler, Inc.

j-Com
J&J Enterprises

K-Com

Larson Electronics, Inc.

M^2 Enterprise
MCM Electronics
MaxRad Inc.
Mendelson Electronic Co., Inc.
Metal & Cable Corp., Inc.
MicroXperts Computer Center
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The DX Bulletin-W6GO/K6HHD
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UCR of Ohio
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Vectronics Inc.

W & W Associates (Batteries R'Us)
W5YI Group
WJ20 Software
Webster Communications, Inc.
Wizardware, Ltd.
Worldradio

YL World Magazine

Special Banquet Prizes

A wide assortment of prizes will be given away at the 1993 Hamvention Banquet. Winners must be present at the banquet to claim the prize.

- **ICOM** IC-737 HF Receiver with Power Supply & Ext. Speaker
- **ICOM** IC-737 HF All Band General Coverage Transceiver
- **U.S. Robotics** Courier Dual Standard with Fax Modem
- **Mosley** PRO-67B 7 Element 10-40 Meter Beam
- **Kenwood** TM 742A Tri Band Mobile Transceiver
- **Yaesu** FT6200 Compact Dual Band 32 Channel VHF/1.2 Ghz Mobile
- **Yaesu** FRG8800 Communications Receiver 100kHz-30Mhz
- **Mosley** TM-53M 10,12,15,17, & 20 Meter 4 Element Beam
- **EDCO** Emoto 1105MSAX Heavy Duty Antenna Rotor
- **Yaesu** FT-5200 32 Channel VHF/UHF Mobile Transceiver
- **ICOM** IC-3230A Dual Band FM 2m/70CM Mobile Transceiver
- **Hewlett Packard** Model 34401A Multimeter

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VARI-NOTCH® DUPLEXERS

FOR 2 METERS

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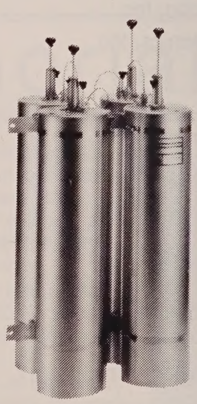

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400 WATT POWER RATING

TX RX SYSTEMS INC.
8625 INDUSTRIAL PARKWAY, ANGOLA, NY 14006
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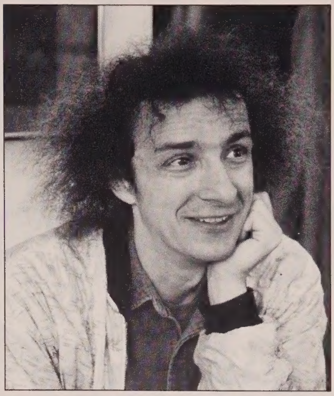
See us in Booth 414 & 415

Banquet

We are extremely pleased to have as our Banquet speaker, Cliff Stoll, K7TA. Cliff is the author of "The Cuckoo's Egg," that was on the New York Times bestseller list for over four months. Cliff appeared on the PBS/NOVA documentary, "The KGB, the CIA, the Computer and Me" which recreates the adventure of his book.

When a German hacker broke into his lab at Berkeley, he decided to silently watch and track him. For a year, he watched as the hacker broke into over forty military computers around the world. Turned out that the hacker was a spy, passing information to the Soviet KGB.

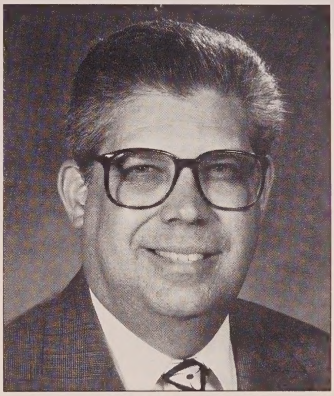
Cliff used the same skill to catch this hacker that you find in 2 meter rabbit hunts: stealth, direction finding, speed, and luck. What techniques did the hacker use to crack into computers? How do you trace someone hiding in the worldwide computer networks? Who was willing to help … and who wasn't? Cliff's talk, "Stalking the Wily Hacker" will address these questions and he has promised a fun time for all.



Cliff Stoll, K7TA

Master of Ceremonies for the 1993 HamVention Banquet is Carl Nichols, N8WFQ. Carl is Chief Meteorologist for WDTN, Channel 2 in Dayton. Carl began his career in meteorology in his home town of Tampa, Florida at WTVT TV. He has also served as a meteorologist at WYTV in Youngstown, Ohio, the Central Weather service in Chicago, and WLKY in Louisville, Kentucky.

In the fall of 1986, Carl started an annual community service project "Carl's Coats for Kids", which provides assistance to the needy people in the Dayton area.



Carl Nichols, N8WFQ

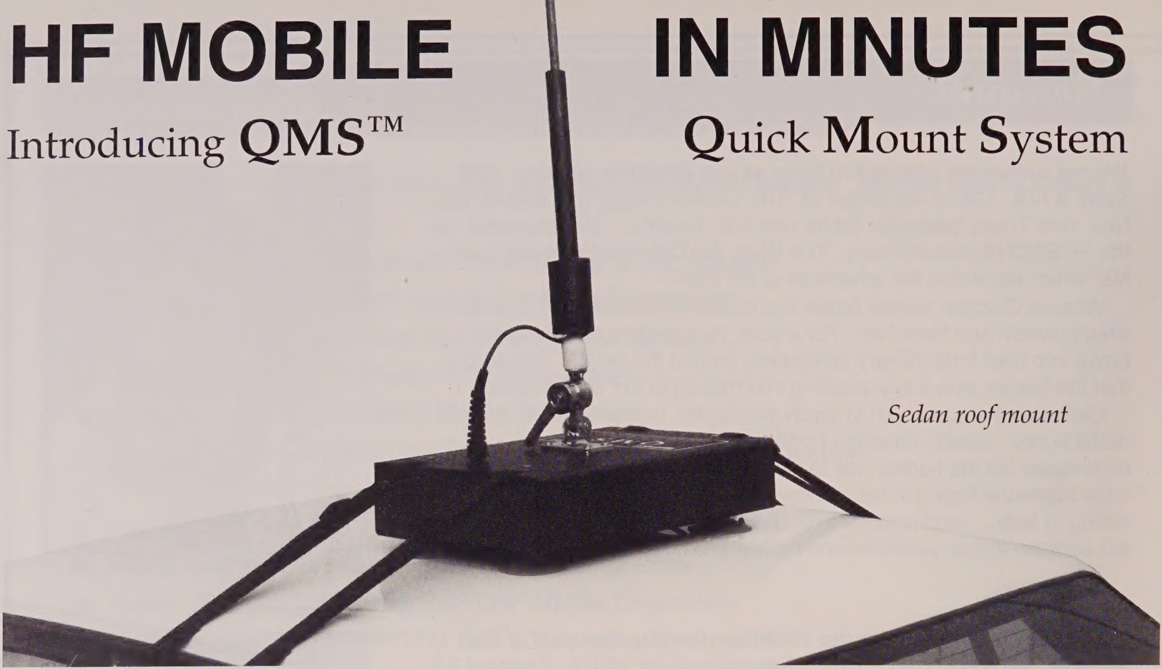
The HamVention Banquet will be held at the Dayton Convention Center on Saturday evening beginning at 6:00 PM. Cash bars will also be available. Dinner will be served beginning at 7:30. The Hal Harris Orchestra will provide background music for the evening. Due to lack of sufficient use, bus service will no longer be provided from local motels. See page 88 for additional bus information. Parking is available in the Convention Center Garage.

Banquet Menu

Garden Salad
Filet Mignon
Baked Potato with Butter and Sour Cream
Capri Blend
Assorted Rolls and Butter
Banana Chocolate Chip Cake
Coffee & Decaf - Hot Tea - Milk - Ice Tea
Carafes of wine available at C.O.D. Bar

HF MOBILE IN MINUTES

Introducing QMS™ Quick Mount System


Sedan roof mount

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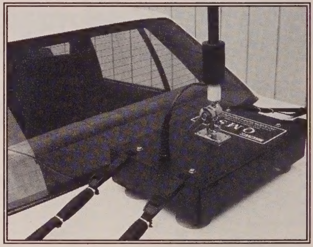

Now you can install a commercial grade HF mobile antenna system on any vehicle in less than 15 minutes - without drilling holes - and while providing from 6 to 20 dB gain over conventional HF mobile antennas. SGC introduces **QMS** - **Q***uick* **M***ounting* **S***ystem* - for mobile HF applications where portability and high performance are required. Designed for special forces use, **QMS** quickly mounts on any car, boat, van, RV or truck. Rated to speeds of 70 MPH+, **QMS** is a complete antenna solution for 1.8 - 30 MHz utilizing the legendary **SG-230 SMARTUNER**™ computer controlled antenna coupler and the **SG-303** all frequency 9 ft. whip antenna . To see how easy HF mobile can be, drop by our booth for a demonstration.

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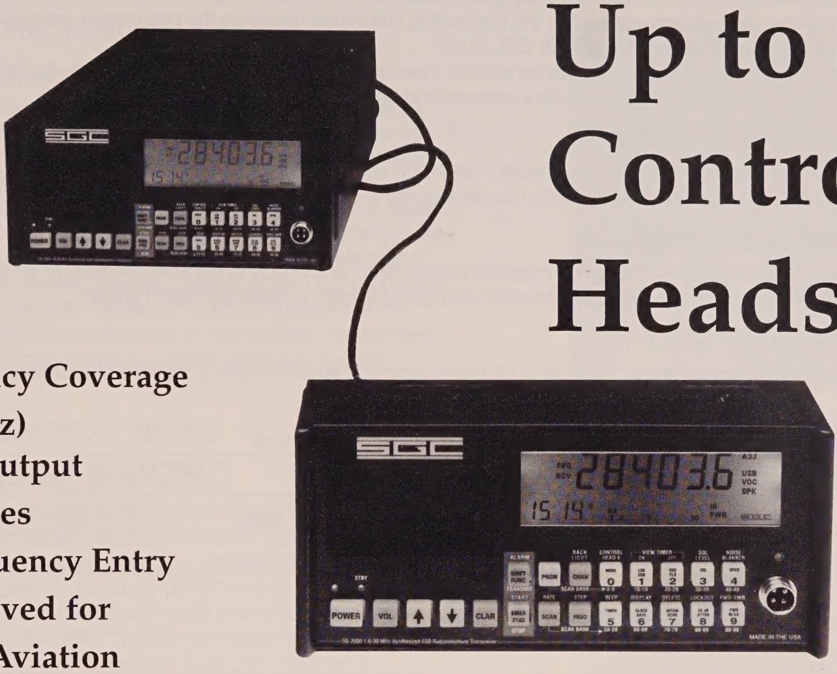
See us in Booths 564,565 We are a Hamvention Prize Donor

SG-2000

Up to 8 Control Heads!



- ✔ **All Frequency Coverage (1.6-30 MHz)**
- ✔ **150 Watts Output**
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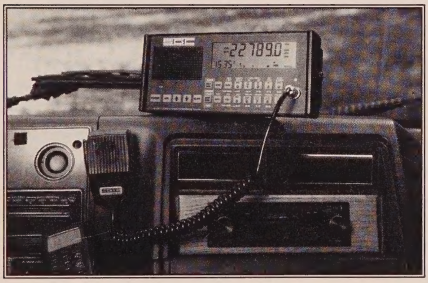
- ✔ **Type Approved for Marine & Aviation**
- ✔ **American Made**



If you're planning ultra rugged mobile or marine use of HF, SGC's SG-2000 is your radio of choice! Serious operators will appreciate the large easy to read display and the positive feel of the keyboard. The SG-2000 control head is removable and may be mounted up to 175 feet from the radio. It's perfect for clean mobile installations. Add up to 8 control heads or fully remote the radio by telephone line.

The SG-2000 has more features and compatibility than any other radio is it's class: Compatible with ALE, AT&T High Seas Direct™, SITOR, Weatherfax, AMTOR and DSC selective calling. All this *plus* full ham band coverage!

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Awards Nomination

DAYTON Hamvention®

Help us locate nominees for our Amateur of the Year, Special Achievement, and Technical Excellence Awards. Do you know an outstanding amateur in your club, community, or from on-the-air contacts? Does this person excel in some phase of amateur radio? Do you feel this person deserves world-wide recognition? All amateurs are eligible – Novice through Extra. Awards are selected by the nominating committee based on the information received. Please do not try to influence the committee by "voting" with QSL cards.

Documentation is beneficial. Magazine articles, newsletters, newspaper clippings, videos, etc. will better inform the nominating committee of your candidate's accomplishments.

AMATEUR OF THE YEAR

This is for the special person who has made a long term commitment to the advancement of amateur radio. We are looking for a well-rounded individual who has contributed to our hobby in some outstanding way.

SPECIAL ACHIEVEMENT

This is for the special person who has made an outstanding contribution to the advancement of amateur radio. This award is usually given to a respected amateur who spearheaded a single significant project.

TECHNICAL EXCELLENCE

This is for the person who has made an outstanding technical advancement in the field of amateur radio.

Name of nominee ____________________ Call ____________

Address ____________________

City ____________ State ________ Zip ________

Phone (   ) ____________ Amateur club affiliation ____________

How has this individual contributed to Amateur Radio ? ____________________

What else has do you know about this individual ? ____________________

Your name (please print) ____________________ Call ____________

Address ____________________

City ____________ State ________ Zip ________

Phone: ☐ Day ☐ Evening (   ) ____________ Your Signature ____________

Send nomination to:

Hamvention Awards Chairman
Box 964
Dayton, OH 45401-0964

Please feel free to duplicate this form.

1993

These awards will be presented at the Hanvention Banquet.

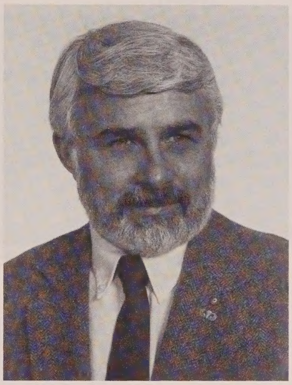
AMATEUR OF THE YEAR AWARD

Harry Dannals, W2HD

For most of us, amateur radio is just a fun pasttime which allows a break from the daily routine. For some, it becomes more than that. It becomes an opportunity to provide the leadership needed to keep amateur radio moving and growing. For over thirty years, Harry Dannals, W2HD, has given his time to make amateur radio a better hobby for all of us. Harry has held many volunteer positions including the following ARRL positions: Section Communications Manager, Vice Director of the Hudson Division, Director of the Hudson Division and President of the ARRL. Currently he is the President of the Quarter Century Wireless Association. In this position, he provided leadership in the effort to create a no-code technician license.

SPECIAL ACHIEVEMENT AWARD

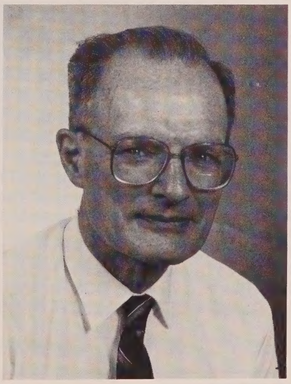
Robert Adams, WA9ZMO



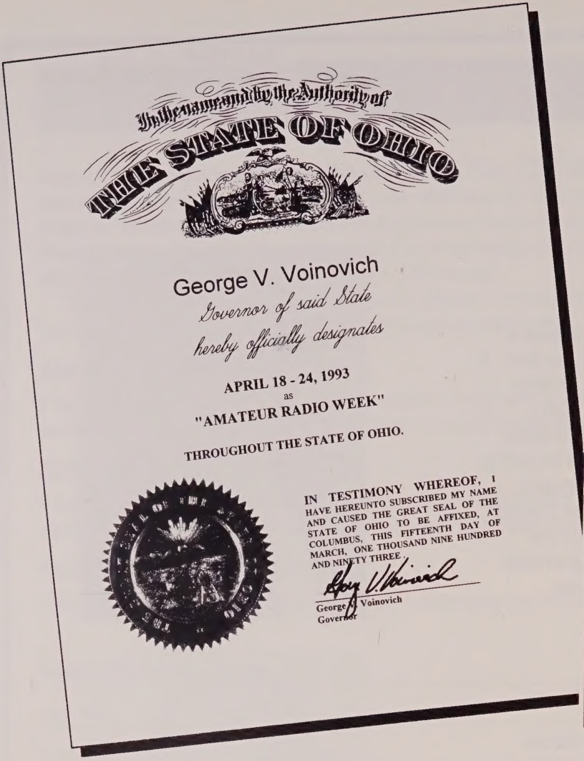
As men and women went to serve in our country's military forces during the Gulf War, Robert Adams, WA9ZMO, a disabled Vietnam veteran, was among those recalled to active duty. Unable to serve in uniform, he volunteerd for the Army MARS program. As AAV5TW, Robb Adams ran a record-breaking 3,328 phone-patches for our troops from January 9 to May 11, 1991 representing a contribution of 1,500 man-hours. Among his honors, Robb has received a Presidential citation, the Distinguished Civilian Service Medal (our country's second highest civil honor), Legion of Merit, and was designated a civilian member of the U.S. Army Signal Corps Regiment.

TECHNICAL EXCELLENCE AWARD

Dick Jansson, WD4FAB



Over the past ten years Dick Jansson, WD4FAB, has contributed greatly to the thermal design of OSCARs 10 and 13. He was responsible for the mechanical and thermal design work for the cluster of AMSAT Microsat satellites in late 1987. Dick is now finalizing a complete mechanical and thermal redesign of the Phase 3D spacecraft. Dick's abilities are not limited to the fields of mechanical and thermal design. He also excels in antenna and electronic circuit design. Since the mid-1980's, he has contributed much of the material used in the space communications section of the ARRL Radio Amateur's Handbook. In addition, Dick has written numerous articles in QST, The AMSAT Journal, and other amateur radio publications.



In the name and by the Authority of
THE STATE OF OHIO

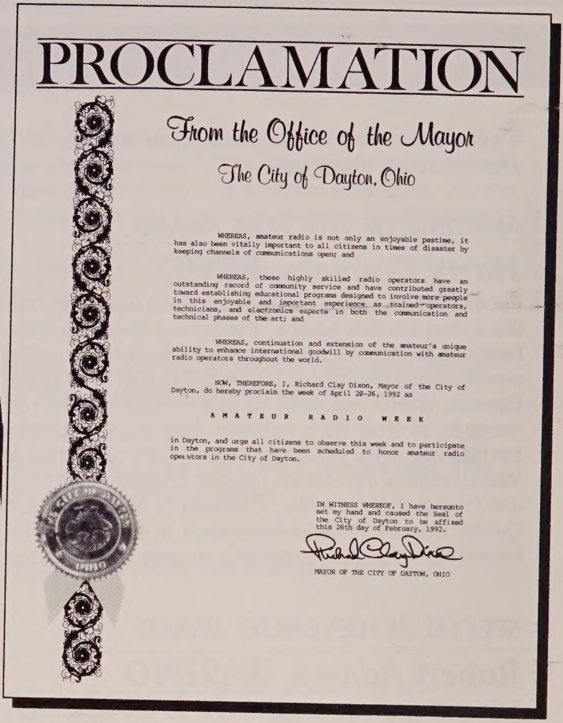
George V. Voinovich
Governor of said State
hereby officially designates

APRIL 18 - 24, 1993
as
"AMATEUR RADIO WEEK"

THROUGHOUT THE STATE OF OHIO.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SUBSCRIBED MY NAME AND CAUSED THE GREAT SEAL OF THE STATE OF OHIO TO BE AFFIXED, AT COLUMBUS, THIS FIFTEENTH DAY OF MARCH, ONE THOUSAND NINE HUNDRED AND NINETY THREE.

George V. Voinovich
Governor



PROCLAMATION

From the Office of the Mayor
The City of Dayton, Ohio

WHEREAS, amateur radio is not only an enjoyable pastime, it has also been vitally important to all citizens in times of disaster by keeping channels of communications open; and

WHEREAS, these highly skilled radio operators have an outstanding record of community service and have contributed greatly toward establishing educational programs designed to involve more people in this enjoyable and important experience as trained operators, technicians, and electronics experts in both the communication and technical phases of the art; and

WHEREAS, continuation and extension of the amateur's unique ability to enhance international goodwill by communication with amateur radio operators throughout the world.

NOW, THEREFORE, I, Richard Clay Dixon, Mayor of the City of Dayton, do hereby proclaim the week of April 20-26, 1992 as

AMATEUR RADIO WEEK

in Dayton, and urge all citizens to observe this week and to participate in the programs that have been scheduled to honor amateur radio operators in the City of Dayton.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the City of Dayton to be affixed this 26th day of February, 1992.

Richard Clay Dixon
MAYOR OF THE CITY OF DAYTON, OHIO

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DARA Scholarship Program

Since 1984, the Dayton Amateur Radio Association has been able to assist young amateurs heading to college by awarding scholarships. In 1992 eight students each received $2000 toward tuition at the school of their choice. The program is open nationwide to any FCC licensed amateur radio operator graduating from high school in the year the award is given. There are no restrictions on class of license or course of study. The 1992 scholarship recipients are:

Shawn E. Allen, KB8IYA of Stumptown, West Virginia. Recipient of the Robert F. Zimmerman Memorial Scholarship. Shawn holds an Extra Class license and attends the West Virginia Institute of Technology where he is majoring in the field of electrical engineering.

Keven D. Creech, N7VYU of Tillamook, Oregon. Keven holds a Technician Class license and attends Oregon State University where he is majoring in mechanical engineering.

Martin H. Gruen, KA2VLD of Margate, Florida. Martin holds an Advanced Class license and attends Stetson University where he is majoring in the field of biology.

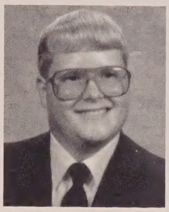
Dwight A. Harris, Jr., N0NTM of Fairfield, Iowa. Dwight holds a Technician Class license and attends Maharishi International University where he is majoring in industrial engineering.

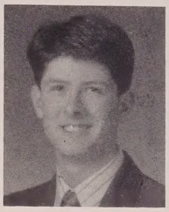
Jerry A. Hensley, Jr., N8HUT of New Paris, Ohio. Jerry holds a General Class license and attends Wright State University where he is majoring in the field of education/rehabilitation.

David C. May, KA7STL of St. George, Utah. David holds an Advanced Class license and attends Dixie College where he is majoring in the field of computer engineering.

Michael A. Shelly, KF0SV of Macon, Missouri. Mike holds an Advanced Class license and attends Moberly Area Community College where he is majoring in chemical engineering.

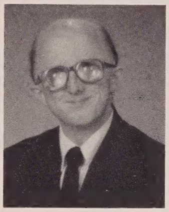
Thomas M. Turk, KM4VI of Brownsboro, Alabama. Recipient of the Charles G. Fry Memorial Scholarship. Tom holds an Advanced Class license and attends Southern College where he is majoring in criminal justice.

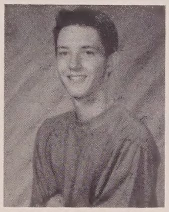

Shawn
KB8IYA


Keven
N7VYU

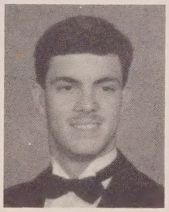
Martin
KA2VLD

Dwight
N0NTM


Jerry
N8HUT


David
KA7STL

Michael
KF0SV


Thomas
KM4VI

Entries for 1993 scholarships must be received by May 14 with winners announced on or about June 1.

For further information and application forms write:

DARA Scholarship Program
45 Cinnamon Court
Springboro, Ohio 45066-1000

Ohio 2 Meter Repeater Map

OHIO 2 METER REPEATERS BY COUNTY AND COUNTY SEAT
Prepared by WB8YUS--Send additions or corrections to WB8YUS @ W8CQK.
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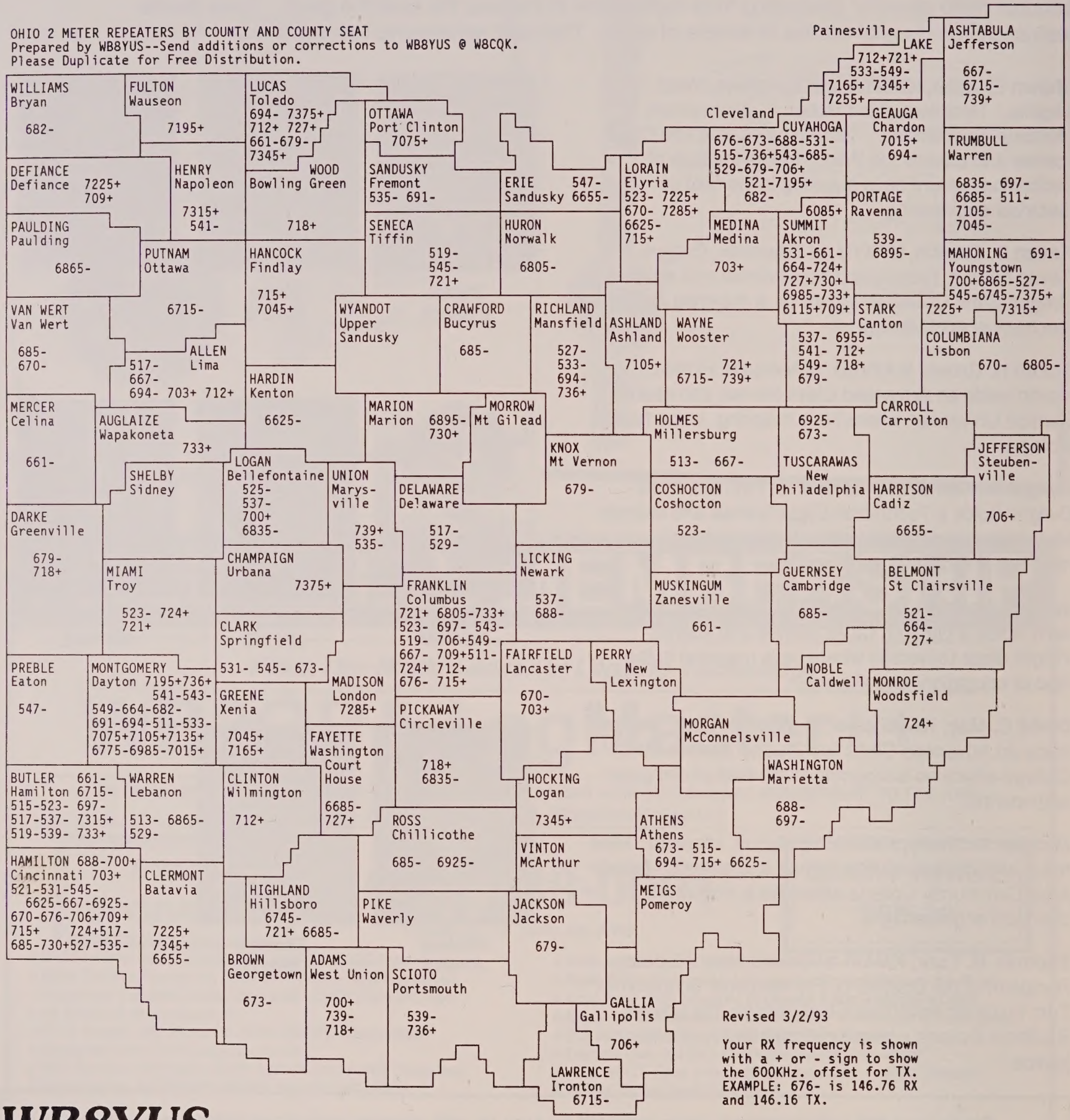
WILLIAMS Bryan 682-
FULTON Wauseon 7195+
LUCAS Toledo 694- 7375+ 712+ 727+ 661-679- 7345+
OTTAWA Port Clinton 7075+
WOOD Bowling Green 718+
DEFIANCE Defiance 7225+ 709+
HENRY Napoleon 7315+ 541-
SANDUSKY Fremont 535- 691-
ERIE Sandusky 547- 6655-
LORAIN Elyria 523- 7225+ 670- 7285+ 6625- 715+
Cleveland CUYAHOGA 676-673-688-531- 515-736+543-685- 529-679-706+ 521-7195+ 682- 6085+
Painesville LAKE 712+721+ 533-549- 7165+ 7345+ 7255+
GEAUGA Chardon 7015+ 694-
ASHTABULA Jefferson 667- 6715- 739+
TRUMBULL Warren 6835- 697- 6685- 511- 7105- 7045-
PORTAGE Ravenna 539- 6895-
MEDINA Medina 703+
SUMMIT Akron 531-661- 664-724+ 727+730+ 6985-733+ 6115+709+
MAHONING Youngstown 691- 700+6865-527- 545-6745-7375+ 7225+ 7315+
PAULDING Paulding 6865-
PUTNAM Ottawa 6715-
HANCOCK Findlay 715+ 7045+
SENECA Tiffin 519- 545- 721+
HURON Norwalk 6805-
VAN WERT Van Wert 685- 670-
ALLEN Lima 517- 667- 694- 703+ 712+
WYANDOT Upper Sandusky
CRAWFORD Bucyrus 685-
RICHLAND Mansfield 527- 533- 694- 736+
ASHLAND Ashland 7105+
WAYNE Wooster 721+ 6715- 739+
STARK Canton 537- 6955- 541- 712+ 549- 718+ 679-
COLUMBIANA Lisbon 670- 6805-
HARDIN Kenton 6625-
MERCER Celina 661-
AUGLAIZE Wapakoneta 733+
MARION Marion 6895- 730+
MORROW Mt Gilead
KNOX Mt Vernon 679-
HOLMES Millersburg 513- 667-
TUSCARAWAS New Philadelphia 6925- 673-
CARROLL Carrolton
JEFFERSON Steuben-ville 706+
LOGAN Bellefontaine 525- 537- 700+ 6835-
SHELBY Sidney
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CLARK Springfield 531- 545- 673-
FRANKLIN Columbus 721+ 6805-733+ 523- 697- 543- 519- 706+549- 667- 709+511- 724+ 712+ 676- 715+
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MONTGOMERY Dayton 7195+736+ 541-543- 549-664-682- 691-694-511-533- 7075+7105+7135+ 6775-6985-7015+
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MADISON London 7285+
FAIRFIELD Lancaster 670- 703+
PERRY New Lexington
NOBLE Caldwell
MONROE Woodsfield 724+
PICKAWAY Circleville 718+ 6835-
MORGAN McConnelsville
FAYETTE Washington Court House 6685- 727+
BUTLER Hamilton 661- 6715- 515-523- 697- 517-537- 7315+ 519-539- 733+
WARREN Lebanon 513- 6865- 529-
CLINTON Wilmington 712+
HOCKING Logan 7345+
WASHINGTON Marietta 688- 697-
ROSS Chillicothe 685- 6925-
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VINTON McArthur
HAMILTON Cincinnati 688-700+ 703+ 521-531-545- 6625-667-6925- 670-676-706+709+ 715+ 724+517- 685-730+527-535-
CLERMONT Batavia 7225+ 7345+ 6655-
HIGHLAND Hillsboro 6745- 721+ 6685-
PIKE Waverly
JACKSON Jackson 679-
MEIGS Pomeroy
BROWN Georgetown 673-
ADAMS West Union 700+ 739- 718+
SCIOTO Portsmouth 539- 736+
GALLIA Gallipolis 706+
LAWRENCE Ironton 6715-

Revised 3/2/93

Your RX frequency is shown with a + or - sign to show the 600KHz. offset for TX. EXAMPLE: 676- is 146.76 RX and 146.16 TX.

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A-2-Z Computers	457
A/D Technologies, Inc.	553
acc: advanced computer controls, inc.	651
ACE Software & Computers/Ace Memory Prod	193,194,195
Action Printing	065
AEA: Advanced Electronic Applications	255,256,257,258,259
Age Computer Inc.	603
Alexander Battery Co. East, Inc.	418,419
Alfa Electronics, Inc.	620,627
Alinco Electronics, Inc.	628,629,635,636
All Ohio Scanner Club	C13
Amateur Communications Magazine	334
American Radio Relay League	208,209,210,220,221,222
Ameritech Mobile Communications	332,333
Ameritron	080,081,082
AMSAT: Amateur Radio Satellite	445,446,447,448
AMSOFT Ham Radio Software	116
Anli International Corp.	327
Antenna Mart	239,240
Antenna Specialists	513
Antennaco Inc.	363
Antennas West	104
Antique Radio Classified	206
Atlantic Ham Radio Ltd.	588
Atlantic Solar Products, Inc.	107
ATVQ	619
AVCOM Of Virginia, Inc.	485
Azden Corp.	451,452
Azimuth Communications Corp.	164,165
Bill Barrick	123,124,125,126
Btm Computers, Inc.	409,410
Buckeye Belles	C11
Buckmaster Publishing	618
Burk Electronics	411,412,413
Burlington Computer Center, Inc.	473,474,475
Business & Computer Book Stores, Inc.	169,170
C.M.E. Computers	641,642,643
C & S Enterprises	615
C.A.T.S.	556
The Cable Factory	199
Cable X-Perts, Inc.	175,187
California Software Inc.	359
CAPS Unlimited	573
The CD-ROM Source	201,202
Chicago Computer Broker	601
Christian Amateur Radio Fellowship	C06
Coaxial Dynamics, Inc.	401,402
Columbus Computer	339
COMAX Systems Inc.	214
Command Technologies, Inc.	006,007
Communication Concepts, Inc.	318
Communications Associates, Inc.	510,511
Communications Equipment & Accessories	575,576
Compustuff	616,617
Computer Bug	509
CIS Computer City	529,530
Computer Companion Of Ohio	566,567
Consolidated Electronics, Inc.	606,607
Control Products Unlimited, Inc.	320
Courage Center Handy-Ham System	C04
CQ Communications, Inc.	449,450,460,461
CRL Enterprises	406
Cushcraft Corporation	016,017,018,019
Custom 4-U	655
D & L Antenna Supply	203
DACAR	C14
DARA (Dayton Amateur Radio Association)	001,002
DARA Van	604,605
DARC: Deutscher Amateur Radio Club	020
DB Computer	345,346,347,348,349,350
Debco Electronics	173,174,185,186
Delaware Amateur Supply	111,112,113,114,115
Delta Airlines Air Cargo	204,216
Delta Research	306
Den-Tronics	520,531
Diamond Antenna, Div. Of R.F. Parts Co.	365,366
Digital Communications, Inc.	238
Digital Interactive Signal Corp.	056
Digital Radio Sysytems, Inc.	471
Direct Micro	224,225
Down East Microwave	341,342
R. L. Drake Company	127
The DX Bulletin	442
DX Engineering, Inc.	484
E.I.L. Instruments	480,481
East Coast Amateur Radio, Inc.	117,118,119
Easterntech Corp.	562,563
EDCO: Electronic Distributors	577,578,579
Ehrhorn Technological Operations, Inc.	136,137
Electro Tool, Inc.	008,009
Electronic Associates	013,014
Electronic Rainbow, Ind. Inc.	129,358,558,559
Elenco Electronics, Inc.	232,233,234
Engelhaupt Embroidery	361,362RE

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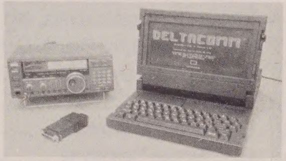

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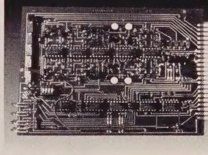

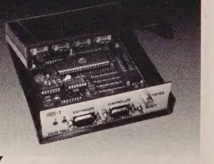

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Exhibitors continued

EQF Software	188
ERM, Inc./ Electronic Liquidators	656,657
Everglades Communications, Inc.	501
Fists Co.	C15
G-QRP Club - Kanga	242
GAP Antenna Products	030
GEM Radio	572
General Motors Corp.	625,626,632,633
Glen Martin Engineering Inc.	482
Goldsmith Group	546,547
The Gordon West's Radio School, Inc.	250,251
Gracilis, Inc.	570,571
Greentree Computers, Inc.	236,237
Grove Enterprises	514
H & H Computer, Inc.	324
Hal Communications Corp.	248,249
Doug Hall Electronics	246,247
Ham Radio Bookstore	068,069,078,079
Ham Radio Toy Store, Inc.	340
The Ham Station, Inc.	536,537,538,539,540,541
Heil Sound, Ltd.	106
Hewlett Packard Co.	637,638
Hi-Res Communications, Inc.	472
Highland Microcomputer Corp.	506,507,508
Hustler, Inc.	031,032
ICOM America, Inc.	033,034,035,036,037
IDE: Innovative Digital Equipment, Inc.	244,245
IMRA: International Mission Radio Assoc.	C05
Innovative Micro Products	420,421
International Radio & Computers, Inc.	432
International Visual Comm. Assoc. (IVCA)	212
J & J Enterprises	552
j-Com	130,131
Japan Radio Co. Ltd.	518,519
JPS Communications, Inc.	646,647
K&S Services/The Wireman	158,159
K1EA Software	435
Kantronics / RF Concepts	041,042,043,044
Kenwood U.S.A. Corporation	050,051,052,071,072,073
KJI Electronics	321,322
Let's Talk Radio Network L.T.R.N./R.A.I.N.	C01
Lance Johnson Engineering	303
The Lanz Company	512
Larsen Antennas	416,417
Roy Lewallen, W7EL	639
Logic Computer Systems, Inc.	226,227,228
LTA	213
M2 Enterprise	431
Marco	C02
Marconi Instruments	526
MARS	356,357
Max Media	407, 408
MAX System Antennas	516
Maxrad, Inc.	230,231
MCM Electronics	182
Memory World Inc.	621,622
Mendelson Electronics Co. Inc.	648,649,650
Metal & Cable Corp., Inc.	502
MFJ Enterprises, Inc.	062,063,064,083,084,085
Michigan Radio	328,329,330,331
Micro Experts-Euclid	422,423
Micro Xperts, West	623,624
Midland International Corp.	351,352,353
Mike's Auto Electric/Lightning Bolt Ant.	645
Mirage / Klm Communications	054,055
Missouri Radio Center	038,039,040,059,060,061
C.T. Morgan & Associates	483
Mosley Electronics, Inc.	010,011,012
Motorola Inc., Geg	609,610
MultiFAX	525
National Amateur Radio Association	325
National Radio Center	585
National Tower Company	179,180,191,192
National Weather Service	463
NCG/Comet Antenna	057,058
Nemal Electronics Intl. Inc.	301
New Wireless Pioneers	207
Norham Radio Inc.	316,317
NTK Computers Corp.	611,612
Nuts & Volts Magazine	045
OARC: Ohio Area Repeater Council	C12
OFS WeatherFAX	128
Omar Electronics	166,167,168
OPTOelectronics, Inc.	076,077
Orion Business International, Inc.	109
OSCAR Satellite Report	464,465
Outbacker Antenna Sales	517
P.C. Electronics	355
PacComm	652,653,654
Palomar Engineers, Inc.	557
Pauldon Associates	319
PC Repeater Controllers	430
PC USA, Inc.	252,253,254
PCB Kits	548

continued on page 77

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1962 - Dana Cartwright, W8UPB ; Cincinnati, Ohio
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1964 - H. Ruble, W8PTF; Dayton, Ohio
1965 - Carl B. Snyder, W8ARW; Greenville, Ohio
1966 - Robert K. Caskey, W9DNQ; Indianapolis, Indiana
1967 - Jack Gray, W8JDV; Mason, Ohio
1968 - Elmer Schubert, W8ALW; Cincinnati, Ohio
1969 - Wayne Walters, W9DOG; Plainfield, Indiana
1970 - Kay Anderson, W8DUV; Huntington, West Virginia
1971 - Al Michel, W8WC; Cincinnati, Ohio
1972 - Don C. Miller, W9NTP; Waldron, Indiana
1973 - Ray E. Myers, W6MLZ; San Gabriel, California
1974 - Barry Goldwater, K7UGA; Scottsdale, Arizona
1975 - Richard A. Daniels, WA4DGU; Arlington, Virginia
1976 - Joseph M. Hertzberg, N3EA; Bryn Mawr, Pennsylvania
1977 - Rafael M. Estevez, WA4ZZG; Hialeah, Florida
1978 - Frank Schwab, W8OK; Dayton, Ohio
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1981 - Eric C Shalkhauser, W9CI; Washington, Illinois
1982 - Robert G. Heil, Jr., K9EID; Marissa, Illinois
1983 - Katashi Nose, KH6IJ; Honolulu, Hawaii
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1985 - John J. Willig, W8ACE; Sarasota, Florida
1986 - Roy Neal, K6DUE; Woodlawn Hill, California
1987 - Carole Perry, WB2MGP; Staten Island, New York
1988 - Bill Bennett, W7PHO; Seattle, Washington
1989 - Bill Pasternak, WA6ITF; Saugus, California
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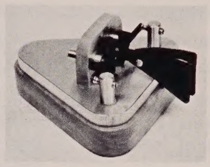

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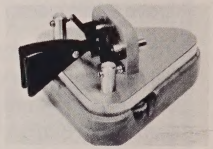

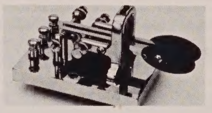

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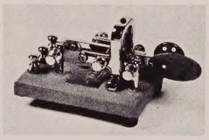

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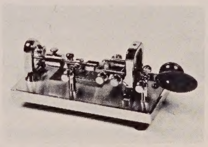

THE ORIGINAL
In 1890 Horace Martin searched for relief from the "glass arm" telegraph operators were getting from pounding the straight keys. His answer, the Vibroplex Original was an instant success. The vibrating lever bar automatically produces dots while dashes are made manually. Still popular today, the distinctive sound of the "Bug" can still be heard. It is the signature of the true C.W. expert.

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Exhibitors continued

PCBoards	337
Perfect 10 Antenna Co.	459
Peripherals Plus, Inc.	583,584
Periphex, Inc	354
Personal Database Applications	634
PKT Electronics	304
Polyphaser Corp.	440,441
PR Computers Inc.	544,545
Practical Wireless	110
Pro-Am / Division Of Valor Enterprise Inc.	466
Pro-Print, Inc	644
Public Brand Software	223,235
QCWA	C03
QRP Amateur Radio Club International	243
QRP-Michigan QRP Club	241
QRZ DX	315
QRZ Industries	515
QSL's By WX9X	314
QSL's By W4MPY	105
QSO Software	640
Quantum Instruments, Inc.	108
R & L Electronics	024,025,026,027,028,029
R.A. Kent (Engineers)	434
The R.F. Connection	155,156
Radio Mod's	505
Radio Shack	177,178,189,190
The Radio Works, Inc.	153,154
Ramsey Electronics	074,075,196,197,527,528
RF Parts Company	364
RF Spectrum Co.	070
Rodin Enterprises	302
RT Systems (SAM)	183,184
S-Com Industries	305
Satellite Headquarters-Connector Unlimited	503,504
Science Workshop	323
Scientific Solutions	455
Sensible Solutions	469
SGC, Inc.	564,565
Shareware To Go	613,614
The Sign Man III	462
The Sign Man Of Baton Rouge	568
The Sign Shoppe	335
Sinclabs, Inc.	343,344
Smiley Antenna Co., Inc.	453,454
Smith Design	608
Software Systems Consulting	219
Solder-It	005
Sommer Antennas	053
Spec-Com Communication & Publishing Group	326
Spectrum International, Inc.	066,067
SSB Electronic USA	338
Standard Amateur Radio	021,022,023,046,047,048
Startek	217,218
Surplus Sales Of Nebraska	132,133,134,135
Tejas RF Technology	229
Telex Communications, Inc.	003,004
Ten-Tec, Inc.	549,550,551
Texas Radio Products	554,555
TIC General	198
Timewave Technology Inc.	569
Tin Can Hams	486
TNR Technical Inc.	205
Tower Electronics	171,172
Townsend Computer Services	443,444
Townsend Electronics, Inc.	176
TPL Communications	424
Transel Technologies	312,313
Transistor Sister & Co.	215
Tucson Amateur Packet Radio	542,543
TX RX Systems, Inc.	414,415
UCR - Boston	467,468
UCR- Ohio	403,404,405
UD Flyer Hams	574
Uniden America Corporation	433
United Computer Resources Of New Jersey	101,102,103
United Ropeworks (USA), Inc.	015
Universal Amateur Radio, Inc.	476,477,478,479
H.C. Van Valzah Company	151
Vector Control Systems	336
VHF Communications	307,308,309,310,311
Virginia Micro Systems, Inc.	200
Visi-Tron, Inc.	436,437,438
W & W Associates	560,561
The W5YI Group	429
W6GO-K6HHD QSL Managers List/ DX Bulletin	442
Webster Communications, Inc.	425,426,427,428
Wenamar Software Distributing	580,581,582
The Wireman, Inc.	157
Wizardware Ltd	160,161
WJ2O Software	439
Worldradio	049
Wyman Research, Inc.	211
Yaesu, USA	521-524,532-535,586,587
E.H. Yost & Company (Mr.Nicad)	120,121,122
ZD Engineering	181

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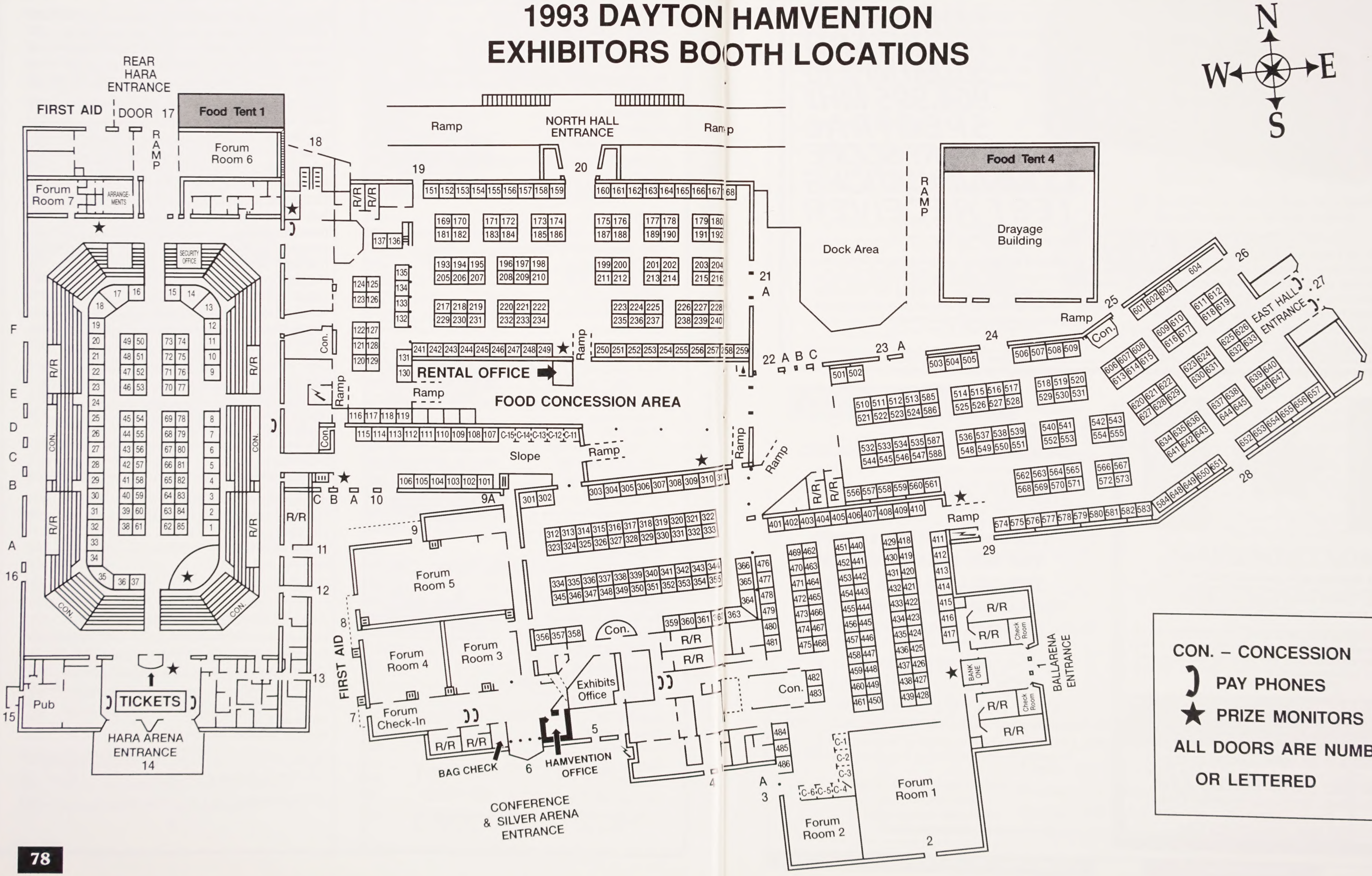
1993 DAYTON HAMVENTION EXHIBITORS BOOTH LOCATIONS


N
W
E
S
REAR HARA ENTRANCE
FIRST AID
DOOR 17
Food Tent 1
RAMP
Forum Room 6
Forum Room 7
ARRANGEMENTS
SECURITY OFFICE
Ramp
NORTH HALL ENTRANCE
Ramp
18
19
20
21
A
Dock Area
RAMP
Food Tent 4
Drayage Building
26
27
EAST HALL ENTRANCE
25
Ramp
Con.
24
23 A
22 A B C
RENTAL OFFICE
FOOD CONCESSION AREA
Ramp
Slope
Ramp
Ramp
R/R
CON.
Con.
F
E
D
C
B
A
16
15
C B A 10
9A
9
11
12
13
8
7
FIRST AID
Forum Room 5
Forum Room 4
Forum Room 3
Forum Check-In
Exhibits Office
Con.
R/R
Pub
TICKETS
HARA ARENA ENTRANCE 14
BAG CHECK
6
HAMVENTION OFFICE
5
4
CONFERENCE & SILVER ARENA ENTRANCE
A
3
C-1
C-2
C-3
C-4
C-5
C-6
Forum Room 1
Forum Room 2
2
Ramp
29
28
Check Room
BANK ONE
1
BALLARENA ENTRANCE

CON. – CONCESSION

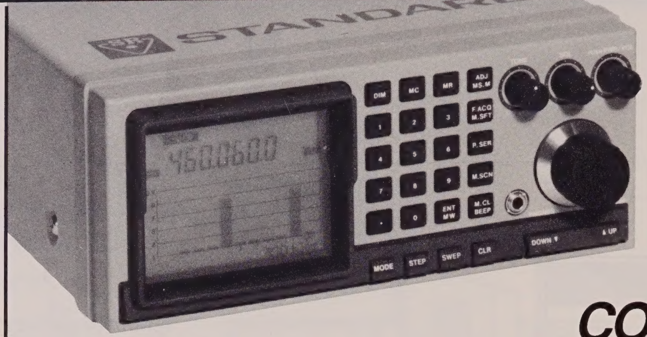
) PAY PHONES

★ PRIZE MONITORS

ALL DOORS ARE NUMBERED OR LETTERED

STANDARD®

CCR708A



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Flea Market Information

Flea Market spaces are NOT selected on a first come, first served basis. The selection will be based on an equitable allocation of available spaces.

Flea Market spaces obtained for the purpose of parking individual vehicles does not comply with the intent of the Hamvention Flea Market operation. Such vehicles may be removed by the Hamvention Committee.

General Rules

1. Vending or trading is not authorized outside of the selling hours.
2. No self-contained vehicles are permitted in the flea market.
3. The standard space is approximately 9‘ x 18‘ and no vehicle or set-up may exceed the designated area.
4. Flea Market spaces are for the express purpose of selling or trading amateur radio, electronic or related equipment and supplies. Flea Market spaces which are not being used for selling or trading may be reclaimed by HAMVENTION Flea Market personnel and reassigned.
5. Security personnel will be in the area. However, HAMVENTION can not be responsible for the security of individual property.
6. Vehicular traffic in the flea market will be extremely limited during open hours. Vehicular access to your spaces during open hours will be by permission of Flea Market personnel only and may not be available at all during busy times. We recommend that you arrive early enough to set-up before opening hours.
7. Bicycles, skateboards, mopeds, non-HAMVENTION golf carts or other similar forms of transportation are not permitted in the Flea Market area. Any exception to this policy must be authorized by the Flea Market Committee.
8. Food and beverage sales by other than Hara Arena are not permitted on the premises.
9. No open flames or any other potential fire hazard will be permitted in the Flea Market area.
10. No camping is permitted in the Flea Market area.
11. No paging other than medical emergencies is permitted in the Flea Market due to zoning restrictions.
12. No firearms or weapons are permitted in the Flea Market for sale or any other purpose.
13. FLEA MARKET SPACES ARE NOT TRANSFERABLE !!! If you have Flea Market spaces that you can not use, please contact the Flea Market Committee. We will probably be able to reassign them. Illegal trading of spaces to create Flea Market areas larger than the three allowed spaces may result in your removal. Any exceptions to this policy must be approved by the Flea Market Committee in advance. The complete listing of Flea Market spaces is used for locating individuals in an emergency during the show.
14. A HAMVENTION general admission ticket is required for entrance to the Flea Market.
15. The use of portable generators in the Flea Market is strongly discouraged. Any conflict which develops over noise or fumes will be resolved in favor of the individuals being disturbed by the generator.
16. Any violation of these rules may be used by Flea Market personnel to justify removal of any vendor. These rules are required to comply with fire department, security and some common courtesy needs. We request the cooperation of all participants to help make this show as pleasant and as successful as possible.
17. NO vehicles will be parked under the tent.

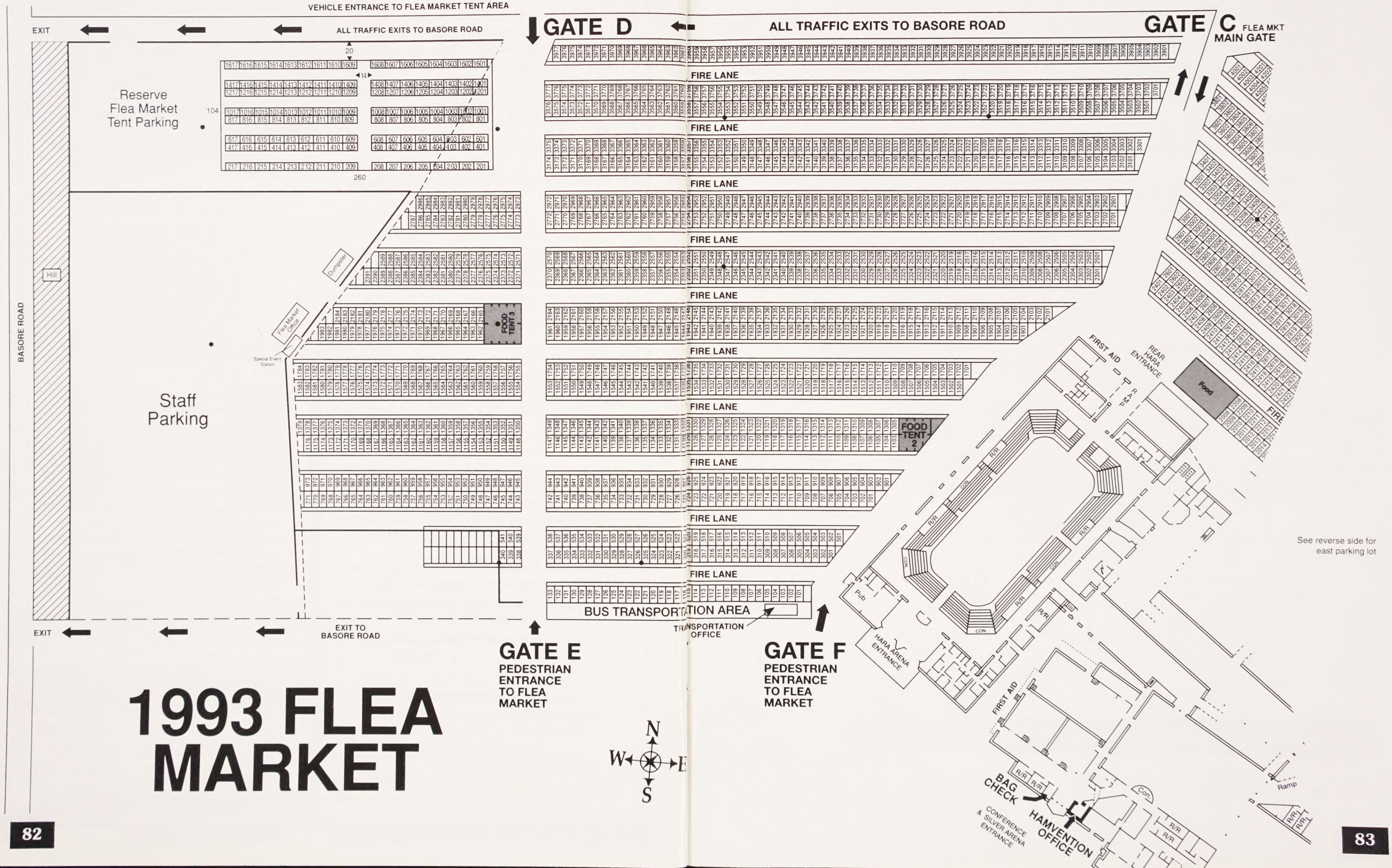
SELLING HOURS

Friday: 8:00 A.M. to 6:00 P.M.

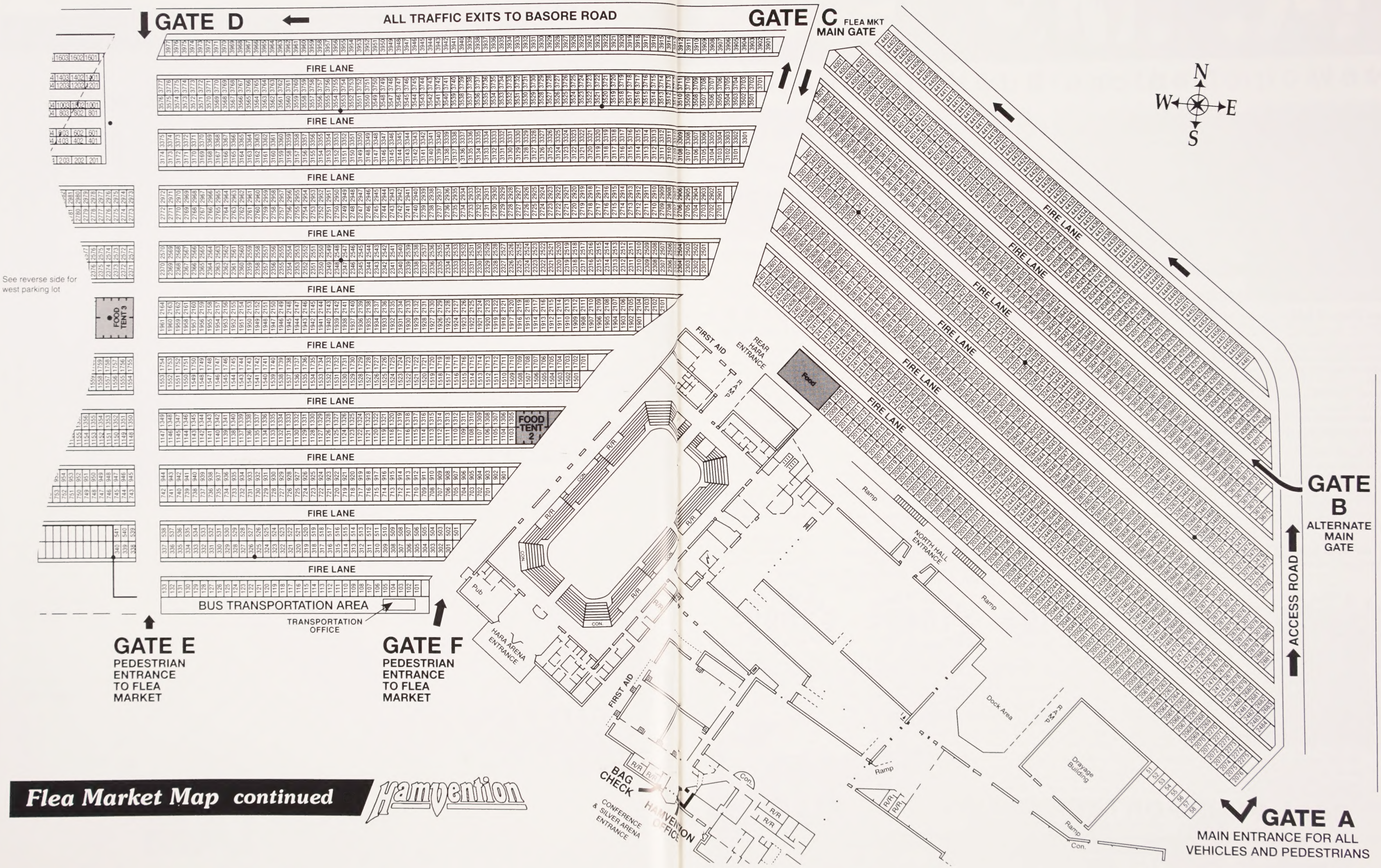
Saturday: 6:00 A.M. to 5:00 P.M.

Sunday: 6:00 A.M. to 4:00 P.M.

1993 FLEA MARKET


VEHICLE ENTRANCE TO FLEA MARKET TENT AREA
EXIT
ALL TRAFFIC EXITS TO BASORE ROAD
GATE D
ALL TRAFFIC EXITS TO BASORE ROAD
GATE C FLEA MKT MAIN GATE
Reserve Flea Market Tent Parking
BASORE ROAD
Hill
Dumpster
Flea Market Office
Special Event Station
Staff Parking
FIRE LANE
FOOD TENT 3
FOOD TENT 2
Food
FIRST AID
REAR HARA ENTRANCE
BUS TRANSPORTATION AREA
TRANSPORTATION OFFICE
EXIT
EXIT TO BASORE ROAD
GATE E
PEDESTRIAN ENTRANCE TO FLEA MARKET
GATE F
PEDESTRIAN ENTRANCE TO FLEA MARKET
Pub
HARA ARENA ENTRANCE
FIRST AID
BAG CHECK
CONFERENCE & SILVER ARENA ENTRANCE
HAMVENTION OFFICE
Ramp
R/R
CON
N
W
E
S

See reverse side for east parking lot


GATE D
ALL TRAFFIC EXITS TO BASORE ROAD
GATE C FLEA MKT MAIN GATE
N
W
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S
FIRE LANE
See reverse side for west parking lot
FOOD TENT 3
FOOD TENT 2
BUS TRANSPORTATION AREA
TRANSPORTATION OFFICE
GATE E
PEDESTRIAN ENTRANCE TO FLEA MARKET
GATE F
PEDESTRIAN ENTRANCE TO FLEA MARKET
FIRST AID
REAR HARA ENTRANCE
Food
Pub
HARA ARENA ENTRANCE
R/R
CON.
Ramp
NORTH HALL ENTRANCE
Dock Area
Drayage Building
FIRST AID
BAG CHECK
CONFERENCE & SILVER ARENA ENTRANCE
HAMVENTION OFFICE
GATE B
ALTERNATE MAIN GATE
ACCESS ROAD
GATE A
MAIN ENTRANCE FOR ALL VEHICLES AND PEDESTRIANS

Flea Market Map continued

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- SVGA Non-Interlaced Monitor .28 DPI
- VESA Local Bus accelerator SVGA card w/1MB RAM
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1899

386 SX33 w/2 MB	VGA 640 x 48	SVGA .39 1024 x 768	SVGA .28 1024 x 768	SVGA .28 Non-Interlace
45MB	635	685	719	759
85MB	685	745	769	809
105MB	705	**759**	789	835
130MB	749	805	829	869
170MB	785	845	869	909
212MB	849	905	939	975

386 DX40 w/4 MB	VGA 640 x 480	SVGA .39 1024 x 768	SVGA .28 1024 x 768	SVGA .28 Non-Interlace 1024 x 768
45MB	815	849	889	919
85MB	869	905	929	979
105MB	879	919	945	985
130MB	925	**959**	999	1035
170MB	979	1009	1045	1085
212MB	1025	1055	1095	1125

486 DX33 w/4 MB RAM	SVGA .39 1024 x 768	SVGA .28 1024 x 768	SVGA .28 Non-Interlace 1024 x 768	SVGA 17'' Non-Interlace 1280-1024
85MB	1219	1249	1285	1755
105MB	1239	1265	1305	1775
130MB	1275	1295	1345	1815
170MB	1315	**1349**	1389	1855
212MB	1385	1409	1425	1919
340MB	1599	1635	1675	2139

486DX2-50 Mhz VESA Local Bus w/4 MB RAM	SVGA .28 1024 x 768	SGVA .28 Non-Interlace 1024 x 768	SVGA 15'' .28 Non-Interlace 1024 x 768	SVGA 17 '' Non-Interlace 1280 x 1024
105MB	1505	1535	1675	1985
130MB	1529	1559	1699	2009
170MB	1565	1595	1735	2049
212MB	1625	**1649**	1789	2105
250MB	1659	1689	1835	2149
340MB	1775	1805	1955	2265

486 DX2-66 Mhz VESA Local Bus w/4 MB RAM	SVGA .28 1024 x 768	SVGA .28 Non-Interlace 1024 x 768	SVGA 15'' .28 Non-Interlace 1024 x 768	SVGA 17 '' Non-Interlace 1280 x 1024
105MB	1709	1739	1859	2175
130MB	1735	1765	1885	2199
170MB	1769	1799	1925	2245
212MB	1829	1859	1979	2299
250MB	1869	**1899**	2025	2339
340MB	1989	2015	2145	2459

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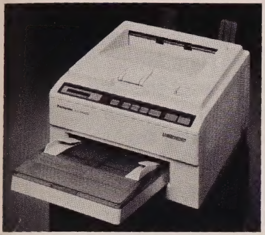

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KX-P2624 24 pin Quiet Wide Carriage LCD Display	339
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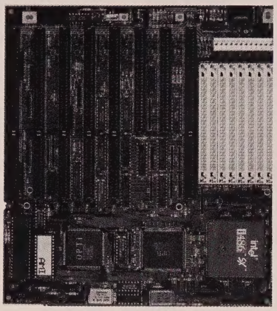

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486DLC-33 Mhz w/64 Cache	299
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486DX-33 Mhz w/256 Cache VESA Local Bus	489
486DX2-50 Mhz w/256K Cache	569
486DX2-50 Mhz w/256K Cache VESA Local Bus	599
486DX-50 Mhz w/256K Cache	589
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ST-3243A 214 Mb 14ms 128K Cache	299
ST-3283A 245 Mb 12ms 64K Cache	349
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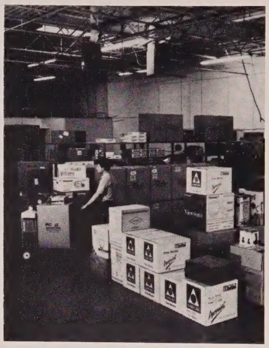
CAVIAR 2170 170 Mb 12ms 64K Cache	245
CAVIAR 2200 212 Mb 11ms 64K Cache	299
CAVIAR 2250 256 Mb 11ms 64K Cache	349
CAVIAR 2340 340 Mb 11ms 64K Cache	479
OTHERS:	
QUANTUM LPS120 125 Mb 11ms	$235
QUANTUM LPS240 240 Mb 10ms	375
CONNER CP30174A 174Mb 16ms	245
MAXTOR LXT213A 213 Mb 12ms	299
MAXTOR LXT535A 535 Mb 12ms	849

VIDEO CARDS

Monochrome w/Printer Port	$15
SVGA 16 bit 256K RAM Acumos	25
SVGA 16 bit 512K RAM Trident	42
SVGA 16 bit 1 Mb RAM Oak	55
SVGA 16 bit 1 Mb RAM Trident 8900C	55
SVGA 16 bit 1 Mb RAM Acumos 16.7 mil. colors	69
SVGA 16 bit 1 Mb RAM Tseng Lab ET-4000 Hi Color	89
HI COLOR WINDOWS ACCELERATOR CARDS	
SVGA 16 bit 1 Mb RAM Paradise	$155
SVGA 24 bit 1 Mb RAM Diamond 24X	159
SVGA 32 bit 1 Mb RAM Diamond Stealth 24 S3 Chip	169
32 bit VESA Local Bus w/ 2 Mb RAM	199
SVGA 32 bit 1 Mb RAM ET-4000 VESA Local Bus	139
SVGA 32 bit 1 Mb RAM ET-4000 VESA Local Bus 16.7 Million Colors	159
SVGA 32 bit 1 Mb VRAM S3 Chip Local Bus	259



Your products are ready to ship from our 30,000 sq. ft. warehouse.

CONTROLLERS

IDE (2 FDD/2 HDD)	$14
Super IDE (2 FDD/2 HDD, 2S/1P/1G)	19
4 Floppy IDE (4 FDD, 2 HDD)	49
IDE Caching Controller (up to 8Mb)	129
At I/O (2S/1P/1G)	12
VESA Local Bus Super IDE Controller	89
VESA Local Bus IDE Caching Contoller	229

CASES w/PS

Minitower w/200W w/LED & Turbo	$48
DeskTop w/200W PS	55
Minitower Deluxe w/6 Bays, LED	69
Midsize Tower w/230W PS	75
Full Tower w/250W PS, 8 bays	88
Mega Tower w/300W .2 fans, Casters	229
Slim Line (Under 3'' High!)	69

MEMORY/MATH CO

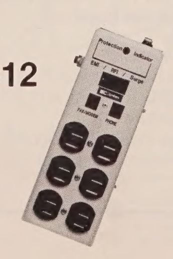
RAM Module 1Mx3-70 SIMM	$35
RAM Module 256Kx3-70 SIMM	12
RAM Module 4Mx9-70 SIMM	CALL
Co-Processor 387-DX40	79
Co-Processor 387-DX33/25	75
Co-Processor 387SX-25/33	65
Co-Processor 287-12/20	49

MULTIMEDIA

Mitsumi CD-ROM Starter Kit 350ms, MPC w/Controller	$199
MPC CD-ROM w/7 CD Bundle	329
Sound Machine (includes: sound blaster oem card, set of speakers, joy stick, software)	99
Sound Blaster Pro-Deluxe	139
Pro Audio Spectrum 16 w/SCSI Port (true 16 bit stero)	179
MPC Speakers SS100/SS150	25
Creative Labs Multimedia Upgrade Kit	549
Pro Audio Spectrum 16 Multimedia Kit (by Media Vision)	999
CD-ROM Caddy	7

Call for complete CD Titles List

$12



Free Hamvention Buses

DAYTON Hamvention®

(Friday, Saturday, Sunday)

LOOK FOR ROUTE NUMBER IN BUS WINDSHIELD

	First Arrival at Hara	Last Departure from Hara
Friday	8:00 A.M.	6:00 P.M.
Saturday	6:00 A.M.	5:00 P.M.
Sunday	6:00 A.M.	5:00 P.M.

Buses will run continuously and make routes as quickly as possible. Due to changing traffic patterns and bus loads, an exact bus schedule is impossible.

BANQUET ROUTES

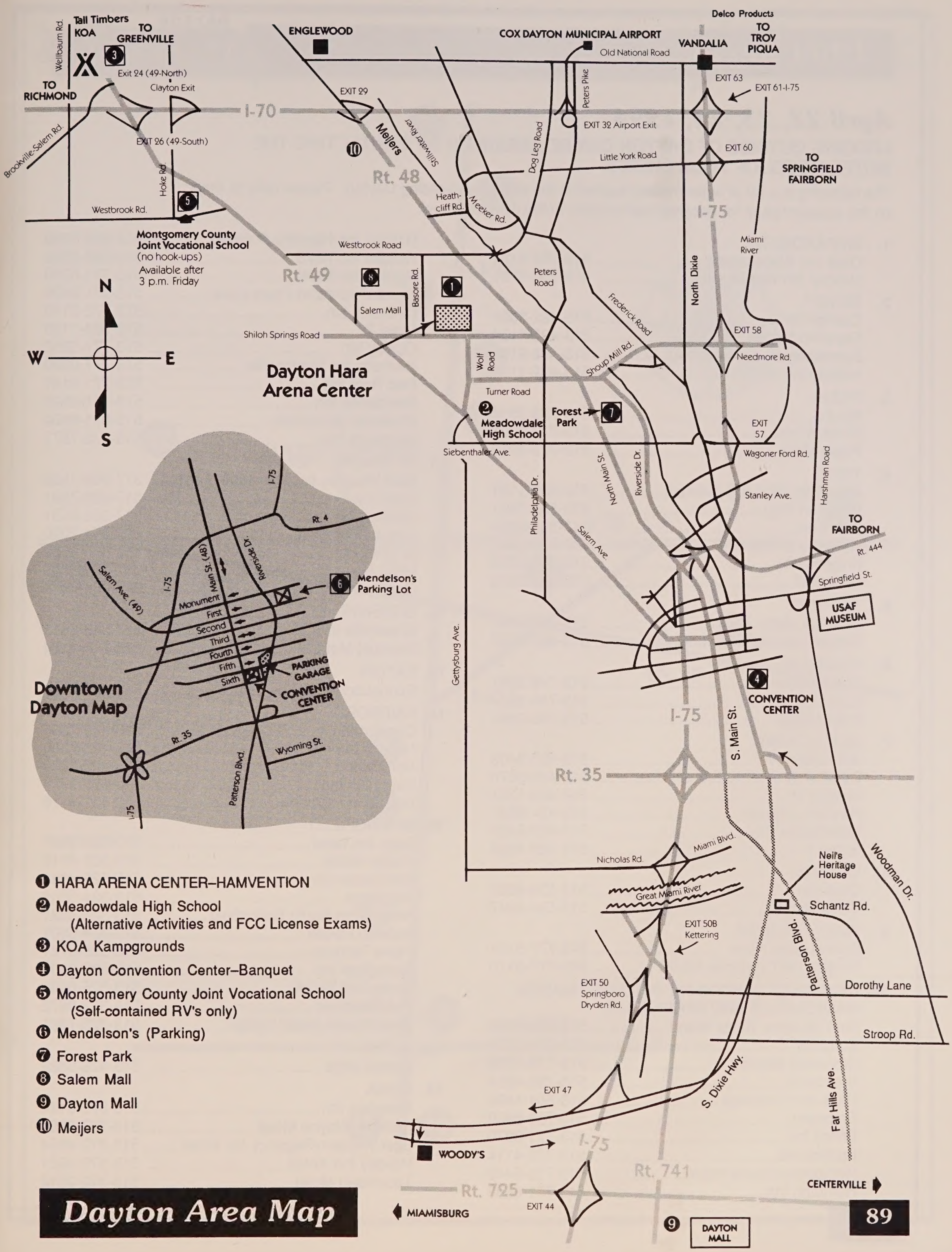
Banquet bus will be available only to Montgomery County Joint Vocational School and Dayton Tall Timbers resort KOA.

NOTES

1. Near the end of each day, off-site visitors who rely on bus service to return to Hara Arena, should return to Hara Arena at least one hour prior to the "Last Departure from Hara" time shown. The last bus routes each day are outbound only from Hara.
2. If your hotel is not on the list below, refer to the map on page 89 and proceed to the nearest Hamvention parking area.

(P) = Parking Areas

Bus No.1 *(Downtown Dayton Area)*		Hara Arena Knights Court Days Inn Downtown Daytonian Hilton Stouffers Center Plaza
	(P)	Mendelson's Surplus ❻
Bus No.2 *(I-75 Exit 57-B Wagoner Ford Road Area*		Hara Arena Radisson Inn Holiday Inn North (Wagoner Ford Rd.) EconoLodge North Best Western North Plaza
Bus No.3 *(Air Force Museum and Fairborn Area)*		Hara Arena 8 Inn of Dayton Air Force Museum Best Inn Riverside Motel
Bus No.4 *(I-75 Exit 60 Little York Road Area)*		Hara Arena Fairfield Inn by Marriot Motel 6 Knights Inn North Red Roof Inn North Days Inn North Ramada Inn North Rodeway Inns North Residence Inn North
Bus No.5 *(KOA - JVS)*		Hara Arena Montgomery County Joint Vocational School ❺ Dayton Tall Timbers Resort KOA ❸
No. 5A		Brookville Days Inn
Bus No. 6 *(I-75 Exit 44 Dayton Mall Area)*		Hara Arena Red Roof Inn Miamisburg Knights Inn (I-75 and SR 725) Signature Inn Days Inn Dayton South Continental Inn/Best Western Holiday Inn (I-75 and SR 725) Courtyard Guest Quarters Suites Residence Inn South Motel 6 South
	(P)	Dayton Mall (Front outer lot) RTA Park-N-Ride ❾
Shuttle Bus No.7		Hara Arena
	(P)	Forest Park Parking Area ❼ (Front lot near Adventure Golf)
Bus No.8 *(South Dayton Area)*		Hara Arena Comfort Inn Holiday Inn South Ideal Motel Kettering Inn Red Horse Motor Inn Traveller's Motel (South) Relax Inn Marriott Inn
Shuttle Bus No. 9		Hara Arena Meadowdale High School (Sat & Sun only)
	(P)	Wolf Road Pay Parking Lots
Bus No.10 *(I-70 Exit 29 Englewood Area*		Hara Arena Cross Country Inn (Englewood) Motel 6 (Englewood) Holiday Inn (Englewood) Hampton Inn (Englewood)
	(P)	Meijer Parking Lot (Rt 48 & I-70) ❿ (Front corner near gas station)
Shuttle Bus No. 11		Hara Arena
	(P)	Salem Mall ❽ (Northwest Corner - rear lot)
Bus No.12 *(Vandalia)*		Hara Arena Ho Jo Inn Dayton Airport Hotel Cross Country Inn (Vandalia) Scottish Inn


Tall Timbers KOA
Wellbaum Rd.
TO GREENVILLE
3
TO RICHMOND
Exit 24 (49-North)
Clayton Exit
I-70
Brookville-Salem Rd.
EXIT 26 (49-South)
Hoke Rd.
5
Westbrook Rd.
Montgomery County Joint Vocational School
(no hook-ups)
Available after 3 p.m. Friday
ENGLEWOOD
EXIT 29
10
Meijers
Stillwater River
Rt. 48
Rt. 49
Westbrook Road
8
Salem Mall
Basore Rd.
1
Shiloh Springs Road
Dayton Hara Arena Center
Heath-cliff Rd.
Meeker Rd.
Dog Leg Road
COX DAYTON MUNICIPAL AIRPORT
Old National Road
Peters Pike
EXIT 32 Airport Exit
Little York Road
Delco Products
VANDALIA
TO TROY PIQUA
EXIT 63
EXIT 61-I-75
EXIT 60
TO SPRINGFIELD FAIRBORN
I-75
Miami River
Peters Road
Frederick Road
North Dixie
EXIT 58
Needmore Rd.
Shoup Mill Rd.
Wolf Road
Turner Road
2
Meadowdale High School
Forest Park
7
EXIT 57
Siebenthaler Ave.
Wagoner Ford Rd.
Stanley Ave.
Harshman Road
Philadelphia Dr.
North Main St.
Riverside Dr.
Salem Ave.
TO FAIRBORN
Rt. 444
Springfield St.
USAF MUSEUM
N
W
E
S
I-75
Rt. 4
Salem Ave. (49)
Main St. (48)
Riverside Dr.
Monument
First
Second
Third
Fourth
Fifth
Sixth
6
Mendelson's Parking Lot
PARKING GARAGE
CONVENTION CENTER
Downtown Dayton Map
Rt. 35
Wyoming St.
Patterson Blvd.
I-75
Gettysburg Ave.
4
CONVENTION CENTER
I-75
S. Main St.
Rt. 35
Nicholas Rd.
Miami Blvd.
Great Miami River
Neil's Heritage House
Schantz Rd.
Woodman Dr.
EXIT 50B Kettering
Patterson Blvd.
Dorothy Lane
EXIT 50 Springboro Dryden Rd.
Stroop Rd.
S. Dixie Hwy.
Far Hills Ave.
EXIT 47
WOODY'S
I-75
Rt. 741
Rt. 725
EXIT 44
CENTERVILLE
MIAMISBURG
9
DAYTON MALL

- ❶ HARA ARENA CENTER–HAMVENTION
- ❷ Meadowdale High School
  (Alternative Activities and FCC License Exams)
- ❸ KOA Kampgrounds
- ❹ Dayton Convention Center–Banquet
- ❺ Montgomery County Joint Vocational School
  (Self-contained RV's only)
- ❻ Mendelson's (Parking)
- ❼ Forest Park
- ❽ Salem Mall
- ❾ Dayton Mall
- ❿ Meijers

Dayton Area Map

1994 Regional Lodging

DAYTON Hamvention®

April 22, 23, 24, 1994

LODGING OUTSIDE OF DAYTON CAN BE ARRANGED BY CONTACTING THE HOTEL/MOTEL OF YOUR CHOICE.

The following is a list of hotels/motels located in the areas surrounding Dayton. Please refer to map on the adjacent page for geographical location of the outlying areas.

1. WAPAKONETA

Days Inn Wapakoneta	419-738-2184
Holiday Inn Wapakoneta	419-738-8181

2. SIDNEY

Comfort Inn	513-492-3001
Days Inn Sidney	513-492-1104
Econolodge	513-492-9164
Holiday Inn Sidney	513-492-1131

3. PIQUA

Ho-Jo	513-773-2314
Comfort Inn	513-778-3001
Piqua Motel	513-773-3234

4. TROY

Allen Villa (Bed & Breakfast)	513-335-1181
Days Inn Troy	513-339-7571
Economy	513-339-6564
Holiday Inn Troy	513-335-0021
Knights Inn	513-339-1515
Micro-Tel	513-335-0013

5. TIPP CITY

Heritage Motel	513-667-2481
Willow Tree (Bed & Breakfast)	513-667-2957

6. FRANKLIN

The Cavalier	513-746-3961
EconoLodge	513-746-3627
Knights Inn	513-746-2841

7. MIDDLETOWN

Affordable Inn	513-423-9403
Comfort Inn	513-420-9378
Holiday Inn	513-424-1201
Howard Johnson	513-424-3551
Manchester Inn	513-422-5481
Super 8	513-422-4888

8. MONROE

Days Inn	513-539-9221
Stony Ridge	513-539-9247

9. WEST CHESTER

EconoLodge North	513-777-5121
Knights Inn Cincinnati North	513-777-5170

10. CINCINNATI (NORTHERN SUBURBS / MASON, SHARONVILLE AND SPRINGDALE

Best Western, Kings Island	513-398-3633
Budgetel	513-671-2300
Cincinnati Marriott	513-772-1720
Courtyard	513-733-4334
Days Inn Cincinnati	513-554-1400
Embassy	513-733-8900
Envoy Inn	513-771-0370
Fairfield Inn	513-772-4114
Hampshire House Hotel	513-772-5440
Hampton Inn	513-771-6888
Holiday Inn Hamilton/Fairfield	513-829-7000
Holiday Inn I-275	513-563-8330
Holiday Inn North	513-771-0700
Howard Johnson Plaza Hotel	513-771-3400
LaQuinta Inn	513-772-3140
Motel 6	513-563-1123
Quality Inn	513-771-5252
Ramada Inn Sharonville	513-771-0300
Red Roof Inn	513-771-5141
Residence Inn	513-771-2525
Sheraton Springdale	513-671-6600
Signature Inn	513-772-7877

11. RICHMOND, INDIANA

Best Western Imperial Motor Lodge	317-966-1505
Days Inn	317-966-7591
Holiday Inn	317-962-5551
Howard Johnson	800-654-2000
Knights Inn	317-966-6682
Lee's Inn	317-966-6559
Quality Inn	317-966-7511

12. GREENVILLE

Greenville Inn	513-548-3613
Stardust Motel	513-548-4154

13. EATON

EconoLodge	513-456-4183

14. FAIRBORN

Comfort Inn	513-879-7666
Holiday Inn I-675	513-426-7800
Homewood Suites	513-429-0600
Patterson Inn	513-879-3920
Red Roof Fairborn	513-426-6116

15. SPRINGFIELD

Days Inn West	513-324-5561
Fairfax Motel	513-323-4915
Hampshire Inn	513-322-4942
Heartland	513-324-5601
Holiday Inn South Springfield	513-323-8631
Imperial House	513-324-5501
Parke Terrace	513-325-8721
Springfield Inn	513-322-3600
Springfield Motel	513-325-6991
The Meadows	513-323-0872
Town House Motor Lodge	513-325-7661

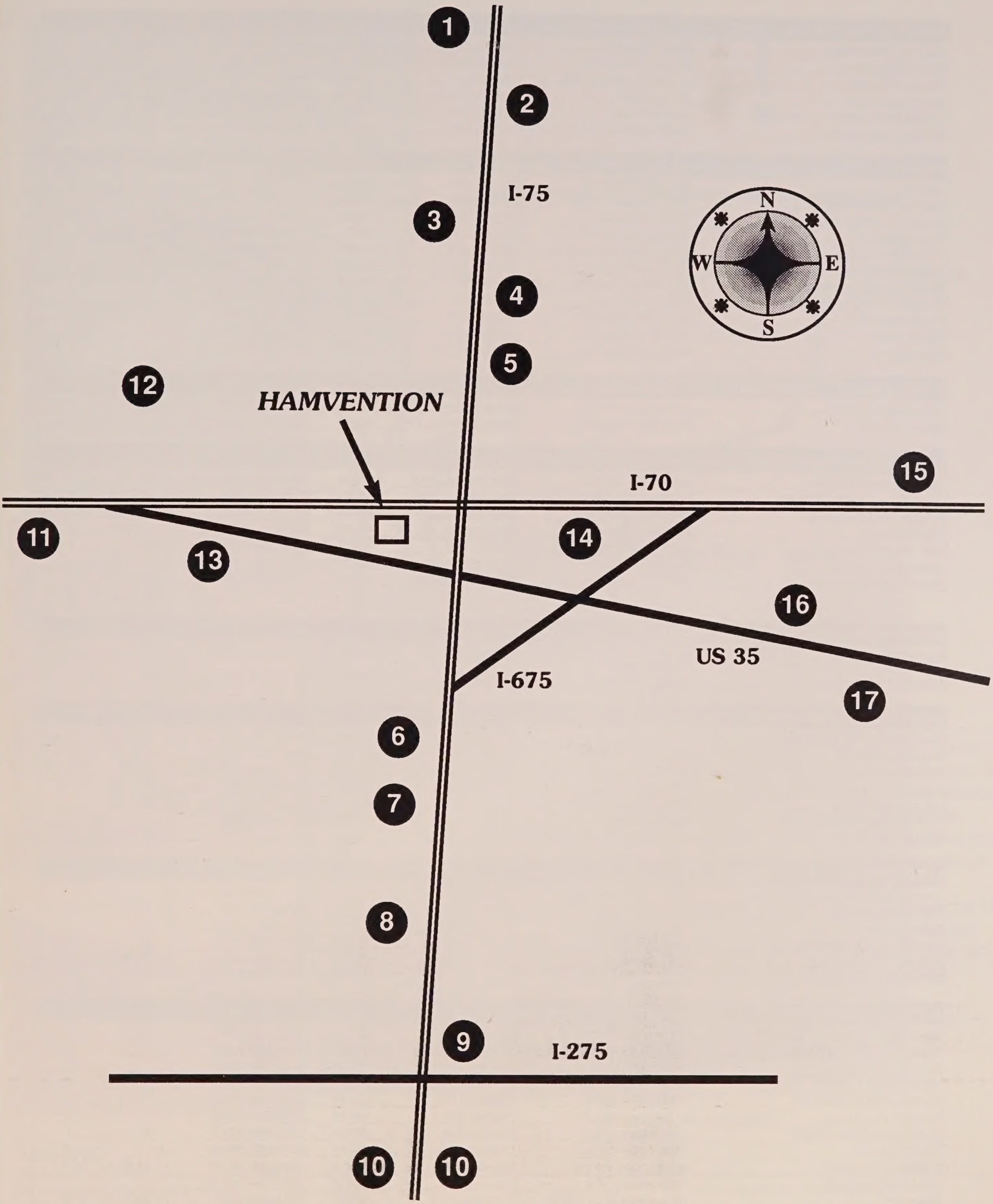
16. ALPHA

EconoLodge	513-426-5822

17. XENIA

Allendale Inn	513-376-8124
Anthony Wayne Motel	513-767-9004
Best Western/Regency Inn Motel	513-372-9954
Holiday Inn Xenia	513-372-9921
Tecumseh Motel	513-372-2512

Regional Lodging Map


1
2
I-75
3
4
5
12
HAMVENTION
I-70
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11
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14
16
US 35
I-675
17
6
7
8
9
I-275
10
10
N
W
E
S

Dayton Area Lodging

DOWNTOWN (Section"I" on map)

Country Inn Suites	404 W First St.	Dayton, OH	45402	(513)224-9911	H	M	R	L	A	P	W
Days Inn Dayton	330 W.First Street	Dayton, OH	45402	(513)223-7131	H	M	R	L	A	P	
Dayton Marriott	1414 S. Patterson Blvd	Dayton, OH	45409	(513)223-1000	H	M	R	L	A	P	W
Daytonian Hilton	11 S. Ludlow	Dayton, OH	45402	(513)461-4700	H	M	R	L	A		
Price's Steamboat House B&B	6 Josie Street	Dayton, OH	45403	(513)223-2444		M	R		A		
Stouffer Center Plaza	Fifth & Jefferson St	Dayton, OH	45402	(513)224-0800	H	M	R	L	A	P	W

I-75 NORTHEAST (Section "II" on map)

Best Inn	5551 Springfield St	Dayton, OH	45431	(513)258-2233			R	L		P	
Dayton Motor Hotel	1639 Keowee Street	Dayton, OH	45404	(513)222-5518							
Dayton Rodeway Inn	7575 Poe Avenue	Dayton, OH	45414	(513)454-0550	H	M		L	A	P	
8 Inn of Dayton	1891 Harshman Rd.	Dayton, OH	45424	(513)236-8083							
Holiday Inn North	2301 Wagoner Ford Rd	Dayton, OH	45414	(513)278-4871	H	M	R	L		P	W
Plaza Motel	1728 Stanley Ave.	Dayton, OH	45404	(513)224-1266							
Radisson Inn Dayton	2401 Needmore Rd.	Dayton, OH	45414	(513)278-5711	H	M	R	L	A	P	W
Residence Inn by Marriott	7070 Poe Avenue	Dayton, OH	45414	(513)898-7764	H	M				P	
Riverside Motel	5441 Springfield St.	Dayton, OH	45431	(513)254-9700		M					
Royal Motel	1450 N. Keowee St.	Dayton, OH	45404	(513)224-9636					A		
Scottish Inn	845 E. National Rd.	Vandalia, OH	45377	(513)898-5871	H				A	P	

I-70 EAST (Section "II" on map)

Travelodge Dayton	7911 Brandt Pike	Huber Heights, OH	45424	(513)236-9361						P	
Super 8 Motel	8110 Old Troy Pike	Huber Heights, OH	45424	(513)237-1888	H						

I-75 SOUTHEAST (Section "III" on map)

Courtyard by Marriott	100 Prestige Place	Miamisburg, OH	45342	(513)433-3131	H	M	R		A	P	W
Guest Quarters Suite Hotel	300 Prestige Place	Miamisburg, OH	45342	(513)436-2400	H	M	R	L		P	W
Holiday Inn Dayton Mall	7999 Prestige Plaza	Miamisburg, OH	45342	(513)434-8030	H	M	R	L		P	W
Motel 6 South	8101 Springboro Pk.	Miamisburg, OH.	45342	(513)434-8750	H					P	
Red Horse Motor Inn	4625 S. Dixie Dr.	Dayton, OH	45439	(513)294-7500						P	
Relax Inn	3333 S. Dixie Dr.	Dayton, OH	45439	(513)299-3581	H						
Residence Inn by Marriott	155 Prestige Place	Miamisburg, OH	45342	(513)434-7881	H					P	

I-675 SOUTHEAST (Section "III" on map)

Hampton Inn I-675	8099 Old Yankee St.	Dayton, OH	45458	(513)436-3700	H	M				P	W
Country Hearth Inn	1944 Miamisburg-Centerville Rd	Dayton, OH	45459	(513)435-1550	H	M			A		

I-75 SOUTHWEST (SECTION "IV" ON MAP)

Best Western Continental Inn	155 Monarch Ln.	Miamisburg, OH	45342	(513)866-5500	H	M	R	L			W
EconolodgeSouth	2450 Dryden Rd.	Dayton, OH	45439	(513)298-0380						P	
Holiday Inn South	2455 Dryden Rd.	Moraine, OH	45439	(513)294-1471	H	M	R	L		P	W
Knights Inn Dayton South	185 Byers Rd.	Miamisburg, OH	45342	(513)859-8797	H	M			A	P	
LaQuinta Motor Inn	2140 Edwin C. Moses	Dayton, OH	45408	(513)223-0166	H	M		L	A	P	
Red Roof Inn Miamisburg	222 Byers Rd.	Miamisburg, OH	45342	(513)866-0705					A		
Signature Inn	250 Byers Rd.	Miamisburg, OH	45342	(513)865-0077	H	M			A	P	

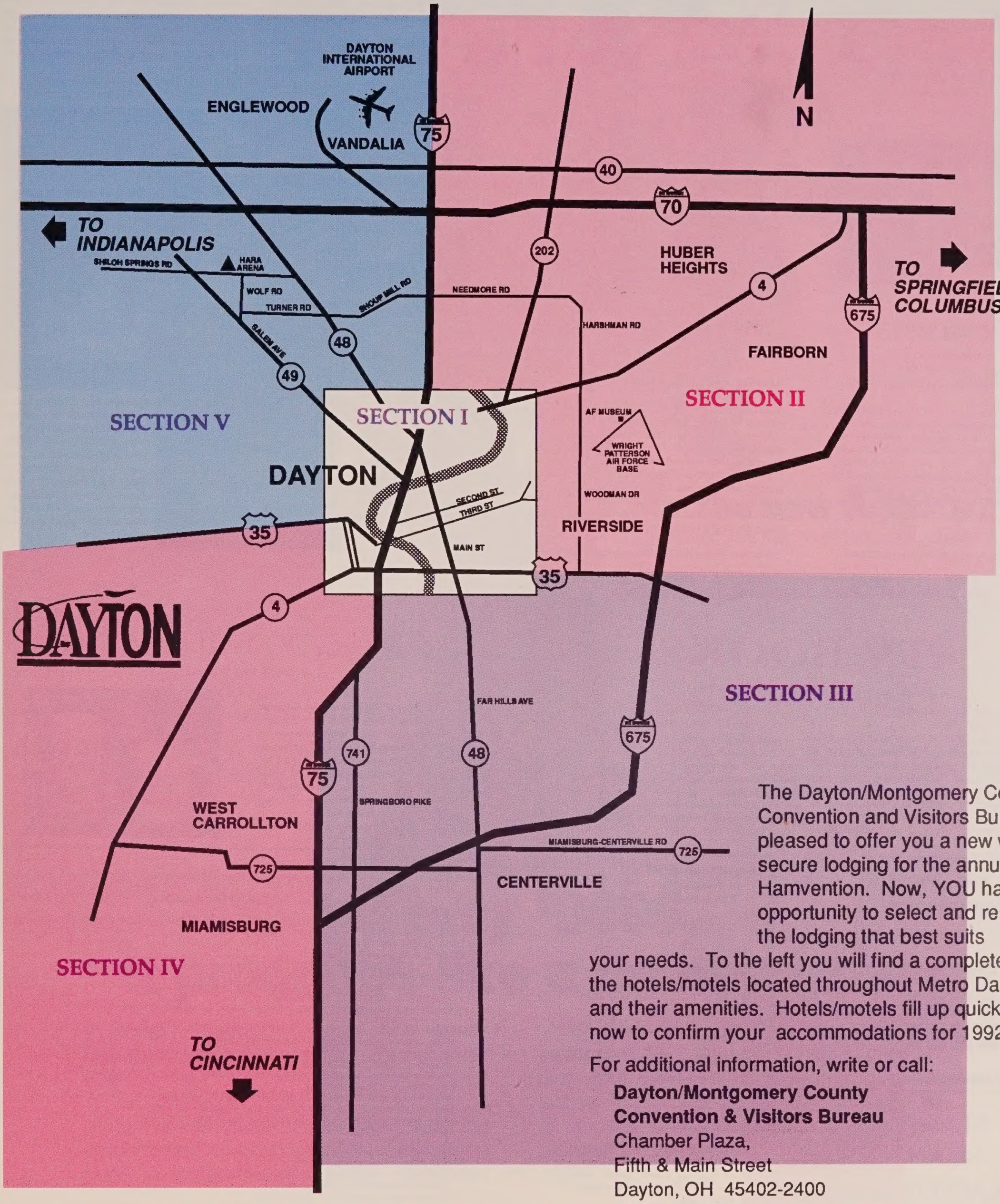
I-70 WEST (Section "V" on map)

Cross Country Inn Englewood	9325 N. Main Street	Dayton, OH	45415	(513)836-8339	H						
Dayton Airport Inn	Dayton Int'l Airport	Vandalia, OH	45377	(513)898-1000	H	M	R	L	A	P	W
Days Inn	100 Parkview Dr.	Brookville, OH	45309	(513)833-4003	H	M					
Hampton Inn Northwest	20 Rockridge Rd.	Englewood, OH	45322	(513)832-2222	H	M			A	P	W
Holiday In Northwest	10 Rockridge Rd	Englewood, OH	45322	(513)832-1234	H	M	R	L	A	P	
Save Inn Dayton Northwest	1212 S. Main Street	Englewood, OH	45322	(513)832-3770	H	M		L		P	

I-75 NORTHWEST (Section "V" on map)

Best Western North Plaza Inn	3636 N. Dixie Dr.	Dayton, OH	45414	(513)276-6151		M	R		A	P	
Cross Country Inn Vandalia	550 E. National Rd.	Vandalia, OH	45377	(513)898-7636	H					P	
Days Inn North	7470 Miller Lane	Dayton, OH	45414	(513)898-4946						P	
Econolodge North	2221 Wagoner Ford Rd	Dayton, OH	45414	(513)278-1500	H	M				P	
Fairfield Inn by Marriott	6960 Miller Lane	Dayton, OH	45414	(513)898-1120	H	M				P	
Holiday Aire Motel	4101 Keats Rd.	Dayton, OH	45414	(513)274-1116				L		P	
Knights Inn Dayton North	3663 Maxton Rd.	Dayton, OH	45414	(513)898-1212		M				P	
Motel 6 North	7130 Miller Lane	Dayton, OH	45414	(513)898-3606	H					P	
Ramada Inn North	4079 Little York Rd.	Dayton, OH	45414	(513)890-9500	H	M	R	L	A	P	
Red Roof Inn North	7370 Miller Lane	Dayton, OH	45414	(513)898-1054							
Save Inn	75 Corporate Center Dr	Vandalia, OH	45377	(513)898-8321	H	M	R	L	A	P	
35 West Motel	7040 W. Third St.	Dayton, OH	45427	(513)835-5965							

Area Lodging Map


DAYTON INTERNATIONAL AIRPORT
ENGLEWOOD
VANDALIA
75
N
40
70
TO INDIANAPOLIS
SHILOH SPRINGS RD
HARA ARENA
WOLF RD
TURNER RD
SHOUP MILL RD
NEEDMORE RD
202
HUBER HEIGHTS
4
TO SPRINGFIELD/ COLUMBUS
675
HARSHMAN RD
SALEM AVE
48
49
FAIRBORN
SECTION II
SECTION V
SECTION I
AF MUSEUM
WRIGHT PATTERSON AIR FORCE BASE
DAYTON
SECOND ST
THIRD ST
WOODMAN DR
35
RIVERSIDE
MAIN ST
35
4
DAYTON
SECTION III
FAR HILLS AVE
675
741
48
75
SPRINGBORO PIKE
WEST CARROLLTON
MIAMISBURG-CENTERVILLE RD
725
725
CENTERVILLE
MIAMISBURG
SECTION IV
TO CINCINNATI

The Dayton/Montgomery County Convention and Visitors Bureau is pleased to offer you a new way to secure lodging for the annual Hamvention. Now, YOU have the opportunity to select and reserve the lodging that best suits your needs. To the left you will find a complete list of the hotels/motels located throughout Metro Dayton and their amenities. Hotels/motels fill up quickly, act now to confirm your accommodations for 1992.

For additional information, write or call:

Dayton/Montgomery County
Convention & Visitors Bureau
Chamber Plaza,
Fifth & Main Street
Dayton, OH 45402-2400
(513) 223-2612

LEGEND

H - Handicapped Facilities
L - Lounge
M - Meeting Room
P - Pool
R - Restaurant
W - Health Club
A - Airport Limo Service

ATV BOOKS

THE BEST OF BOTH WORLDS

NON TECHNICAL

TECHNICAL

$9.95 US
ATV SECRETS FOR ASPIRING ATV'ERS
Volume I
Everything you wanted to know about ATV but didn't know where to ask!
FEATURING:
HAM TV ON EARTH AND IN SPACE
GET STARTED: HAM TV CHEAP AND EASY
FUN WITH HAM TV
PUBLIC SERVICE HAM TV
THE SKY WAS THE LIMIT: BALLOON, ROCKET & R/C ATV
NASA SPACE SHUTTLE ATV
INDEX TO OVER 500 ARTICLES, FEATURES, BUILD-IT PROJECTS FOR ATV
HAM TV, NO CODE REQUIRED!
ALL YOU NEED IS A LITTLE IMAGINATION!
AND ANY CLASS HAM LICENSE!
FINAL CHECKOUT OF STS 37 ATV GEAR FOR SAREX. NASA Photo

TV SECRETS
Volume II
$24.95 USD
International
Television Topics and Projects for Novice to Expert
Featuring: Best of ATVQ Magazine
Future TV: HDTV Tutorial
New Bonus Projects

ATV SECRETS

volume one,

FOR ASPIRING ATVers,

AS REVIEWED IN OCTOBER 1992 ISSUE OF QST.

ATV SECRETS is a great place to start your ATV adventure. Its 64 pages are tightly packed with succinct information to cover all aspects of getting started, where to find activity, equipment, how to DX, and answers frequently raised questions of power, antennas, vestigial sideband operation and more. It also includes an index to over 500 items which have appeared in ATVQ Magazine. Everything you need to know to enjoy ATV in one place!

$9.95 plus $1.50 post (US), $1.90 (Canada) $2.90(DX)

TV SECRETS

volume two,

for advanced ATV'ers,

As published in the October 1992 issue of QST.

A mammoth book, with **292 pages** of technical material. **Over 40 authors** present **over 90 technical projects** and theory topics to fully acquaint anyone from novice to expert in the how and what of TV, video and ham TV. Divided into 11 chapters, the book presents tested projects for all areas of interest in ham TV including antennas, amplifiers, repeaters, receivers, transmitters, video accessories and more. Suitable for all knowledge levels from novice to expert.

$24.95 plus $2.90 post (US) $3.80 (Canada) $6.50(DX).

ATV MAGAZINES

CQ-TV

A quality quarterly publication covering mostly British ATV activity, club news and usually several good technical projects per issue. Typically 100+ 5.75 x 8.25 pages per issue. Most projects will also work or can be adapted to NTSC standards from PAL.

Covers video, ATV, SSTV, ATV repeaters with construction projects. Most projects also have circuit boards and kits available at reasonable cost from the BATC.

USA residents may subscribe via ATVQ for $21/yr which includes all foreign funds exchange fees.

VHF COMUNICATIONS

A high quality technical publication with mostly technical projects for VHF-UHF, Microwave and ATV. Projects are reknowned for their quality. The publication also offers PC Boards and kits for projects. Probably the best technical ham radio magazine today! Authors are world famous hams and articles are technically sound.

USA residents may subscribe via ATVQ for $27/yr which includes all foreign funds exchange fees.

CQ-TV MAGAZINE No. 140
BRITISH AMATEUR TELEVISION CLUB
VK2RTS
Repeaters list - Servicing the
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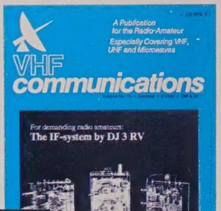
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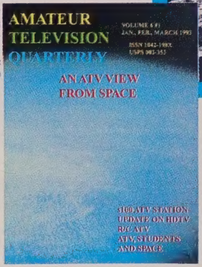
AMATEUR TELEVISION QUARTERLY
VOLUME 6 #1
JAN., FEB., MARCH 1993
ISSN 1042-198X
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AN ATV VIEW FROM SPACE
$100 ATV STATION
UPDATE ON HDTV
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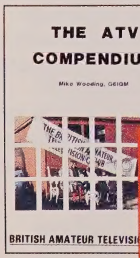
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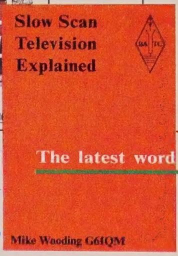
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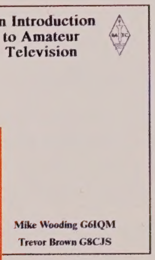
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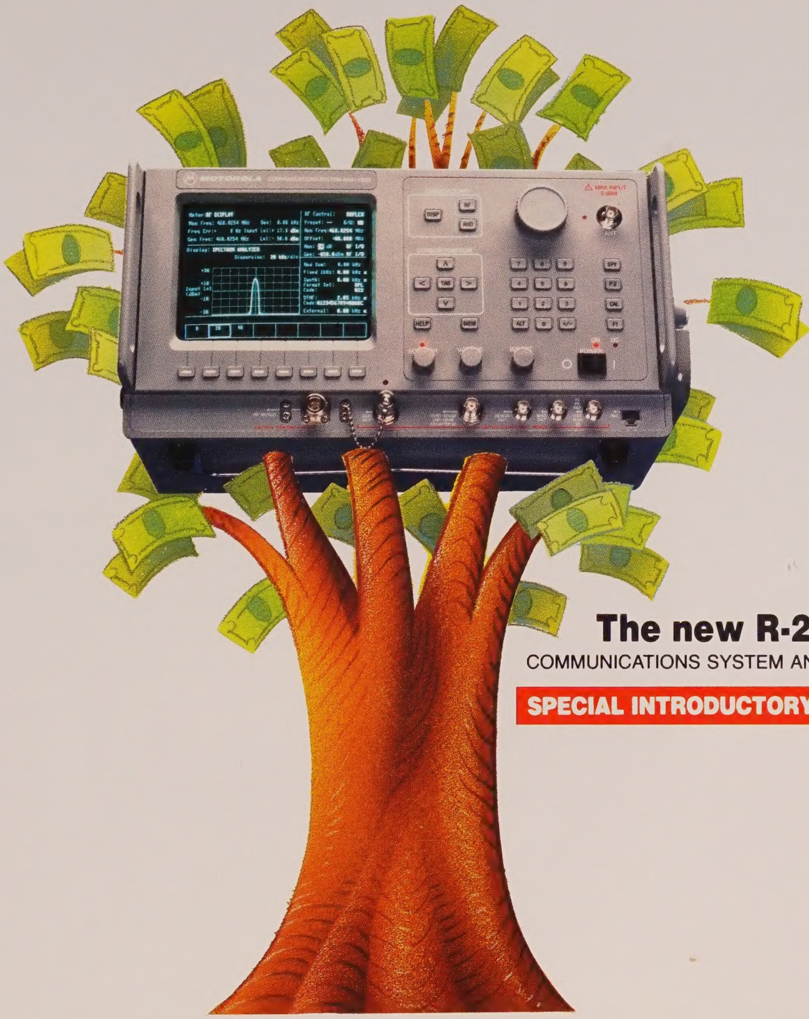

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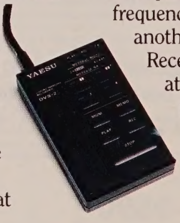

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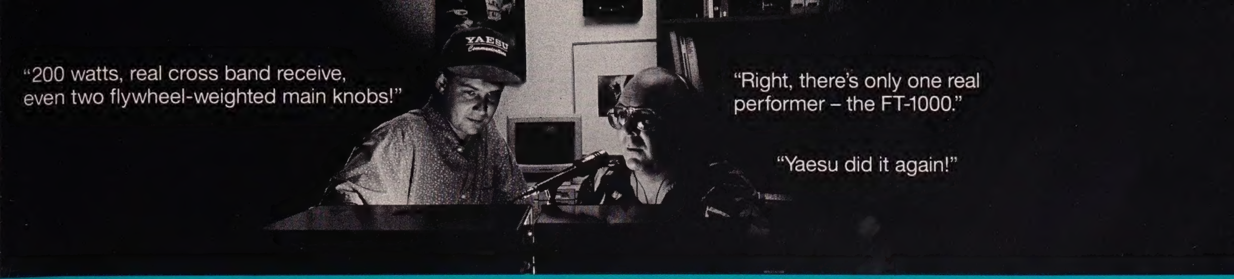
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Kenwood's TS-450S is a triumph in transceiver technology. Covering all nine HF amateur bands—in SSB, CW, AM, FM and FSK modes—with powerful 100W output (40W for AM), it's ready to take the lead in all HF communications. Advanced features—with the option of adding a digital signal processor—give you the edge in performance. Yet the compact, lightweight construction makes it a winner for DX-peditions.

- **AIP system**
  Kenwood's exclusive AIP (Advanced Intercept Point) circuit raises the receiver's intermodulation dynamic range to 108dB, while lowering the noise floor level.
- **Superior interference reduction controls**
  IF shift, AF notch, dual noise blankers, CW reverse mode, and pitch control. IF filter settings can be stored in memory.
- **Ultra-fine tuning (SSB, CW and FSK modes)**
  By engaging the FINE key, the operator can tune precisely in 1Hz steps, thanks to the Direct Digital Synthesizer (DDS).
- **Automatic antenna tuner (built-in or option)**
  The internal antenna tuner can automatically establish the optimum match between 20 and 150 ohms in the 80 to 10 meter band. The optional AT-300 automatic external tuner covers 160-10m, and can also be used to tune single-wire antennas.
- **Optional digital signal processor**
  The DSP-100 provides signal modulation of unerring precision. In SSB operation, unwanted sidebands can be effectively suppressed, while in CW mode the rise and decay times of CW waveforms can be tailored for optimum clarity.

The TS-450S can be computer-controlled with the optional IF-232C and HamWindows software. See your Authorized Dealer for more details.

TS-450S
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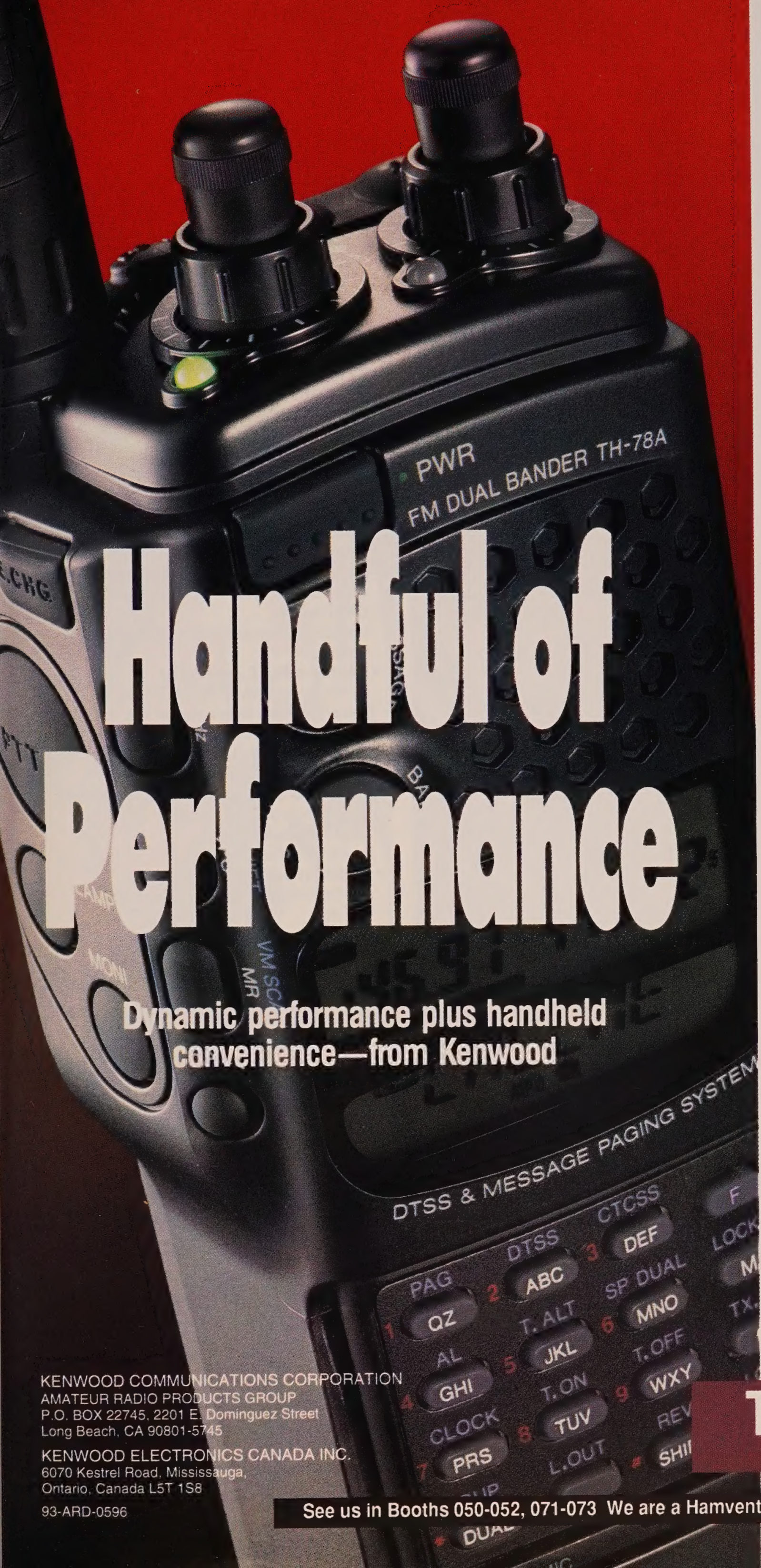

Handful of Performance

Dynamic performance plus handheld convenience—from Kenwood

To get the most out of handheld communications, choose Kenwood's TH-78A (144MHz/440MHz) which offers all the latest features. Or the TH-28A (144MHz) and TH-48A (440MHz) single-band transceivers, which are equally impressive. All three represent a winning combination of top-flight technology and ergonomic design.

- **Alphanumeric memory**
  Alphanumeric data (max. 6 characters) can be entered directly into memory.
- **Alphanumeric message paging**
  In addition to standard DTSS and paging functions, alphanumeric messages can be stored in memory for immediate transmission.
- **Dual-frequency receive**
  In addition to full-duplex cross-band operation, the TH-78A is equipped to receive two frequencies simultaneously, even on the same band. There's also independent double-band scan and ABC (automatic band change). The TH-28A and TH-48A feature dual-band receive capability, enabling semi-duplex cross-band operations (TH-28↔TH-48A).
- **Frequency coverage**
  TH-28A: 118-173.995 MHz, sub RX: 438-449.995 MHz; TH-48A: 438-449.995 MHz, sub RX: 136-173.995 MHz; TH-78A: 118-173.995, 438-449.995 MHz. Transmit on Amateur bands only. (MARS/CAP modifiable, permits required).
- **2.5W power with supplied battery pack**
  5W with 12 VDC power source (PB-14, PB-17, or external DC).
- **Non-volatile memory**
  The TH-78A has 50 memory channels (expandable to 250 with the ME-1 option), while the TH-28A and TH-48A have 40 channels (expandable to 240 with the ME-1 option).

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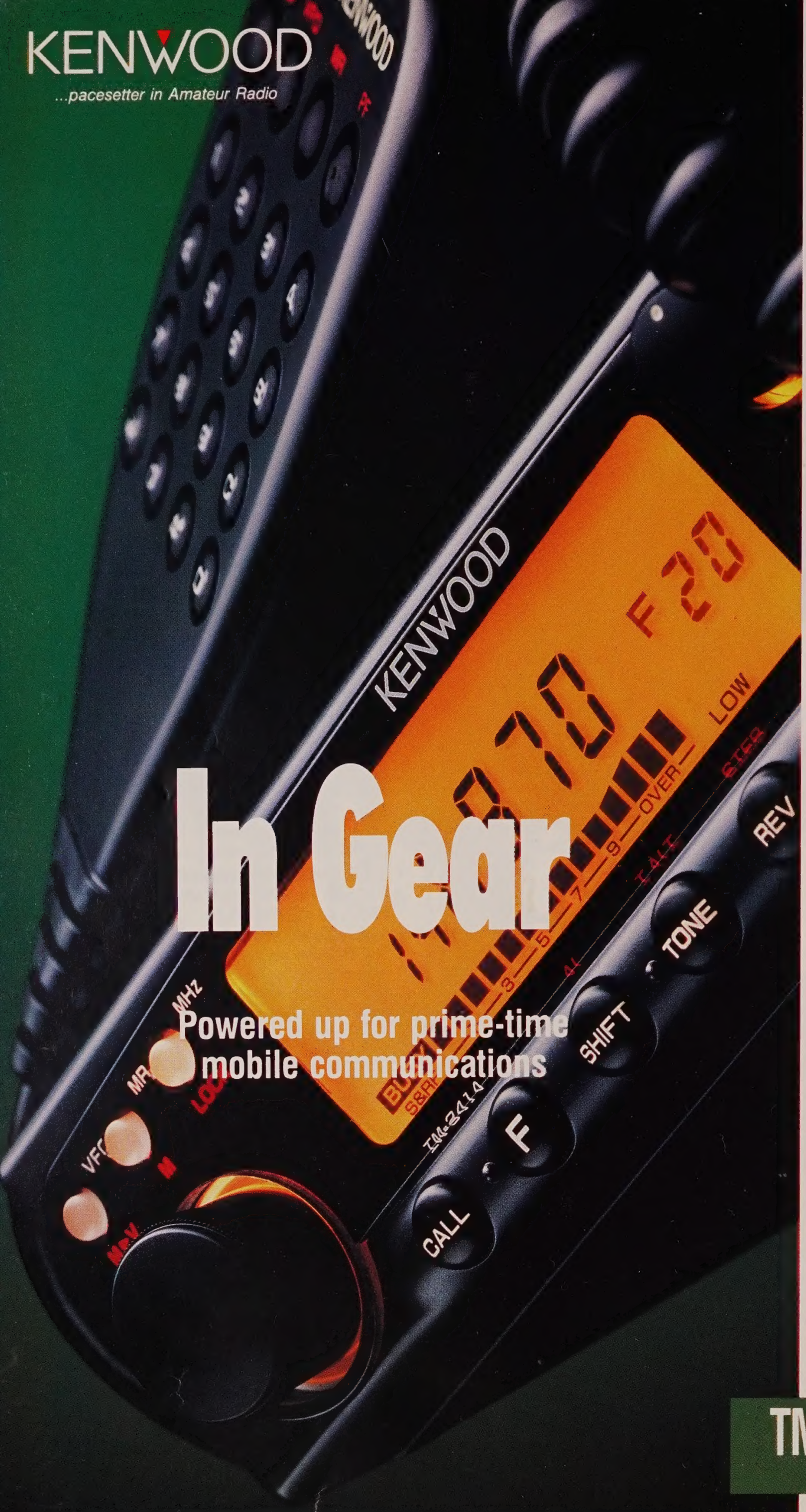

In Gear

Powered up for prime-time mobile communications

Kenwood's TM-241A (144MHz), TM-331A (220MHz), TM-441A (440MHz), and TM-541A (1200MHz) mobile transceivers offer sports-car performance with family-car convenience.

- **High power**
  The TM-241A provides 50W, TM-331A is 25W, TM-441A 35W, and TM-541A 10W. Three power positions: 5, 10 and full. The TM-541A has two power positions: 1 and 10 watts.
- **Wideband receiver coverage**
  The TM-241A receives from 118 to 173.995MHz; transmit range is 144–148MHz (modifiable for MARS and CAP operation, permits required). Other ranges are 215–230MHz (TM-331A), 438–449.995MHz (TM-441A), and 1240–1299.995MHz (TM-541A).
- **20 memory channels**
  20 multi-function memory channels store frequency, repeater offset, sub-tone frequencies, and repeater reverse data. Repeater offset on 2m is automatically selected. There are 4 channels for "odd split" operation.
- **Multiple scan modes**
  Band and memory scan, with selectable scan stops and memory channel lock-out.
- **CTCSS built-in**
  Selectable from front panel (optional KQT-8 decoder available).
- **Selective calling & pager option**
  The DTU-2 option enables DTSS (Dual-Tone Squelch System) for selective calling and paging using standard DTMF tones. Elapsed time is shown by the tone alert system. (TM-241A/441A/541A)
- **Digital recording system option**
  Used in conjunction with the tone alert system, this allows message storage of up to 32 seconds.
- **Large LCD display**
  Features 4-step dimmer control.
- **Supplied accessories**
  Mounting bracket, DC cable, fuses, multi-function DTMF mic.
- **Choice of accessories**
  A full line of mics, speakers, and other accessories is available. See your authorized Kenwood Amateur Radio dealer for details!

Specifications guaranteed for Amateur band use only.

TM-241A

TM-331A

TM-441A

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Kenwood's new TM-742A (144MHz/440MHz) and TM-942A (144MHz/440MHz/1200MHz) FM multibanders offer prime performance plus unparalleled freedom of choice for installation (optional kit).

- **High power**
  Maximum RF output is 50 watts (144MHz), 35 watts (440MHz), and 10 watts (1200MHz).
- **Wideband receiver coverage**
  The TM-742A receives from 118 to 174MHz and 410 to 470MHz; transmit ranges are 144–148MHz and 438–450MHz. The TM-942A adds the 1240–1300MHz range.
- **New & improved detachable front panel**
  The display and control sections can be separated for 3-way convenience. (with DFK-3,4,7)
- **100 memory channels**
  The 100 multi-function memory channels (all available for split operation) can be grouped into 5 banks for added convenience.
- **Multiple scan modes**
  Choose from 8 scan modes per band, plus CO (carrier-operated) and TO (time-operated) scan stops.
- **Tri-band receive/display**
  The TM-942A can receive/display all three bands (144MHz/440MHz/1200MHz) simultaneously. For the TM-742A there are four optional band units: 28MHz (50 watts), 50MHz (50 watts), 220MHz (25 watts), and 1200MHz (10 watts).
- **Cross-band repeater, dual-in repeater, fixed-band repeater**
- **Single-bander simplicity**
  Independent SQL and VOL controls for each band enable rapid response.
- **S meter squelch and auto squelch**
  Weak signals can be shut out. Noise squelch is also available.
- **Supplied multi-function microphone**
  Enables direct frequency entry.
- **Clock and timer**
  Includes stopwatch, alarm and on/off timer functions.
- **Wireless remote control function**
  A DTMF transceiver can be used to control various settings on the TM-742A/942A.
- **Built-in DTSS and pager function**
  The TM-742A/942A offers DTSS (Dual-Tone Squelch System) for selective calling and paging using standard DTMF tones. Elapsed time is shown by the tone alert system.
- **Supplied accessories**
  Mounting bracket, DC cable, fuses, mic, mic hook.
- **Choice of accessories**
  A full line of mics, speakers, and other accessories is available. See your authorized Kenwood Amateur Radio dealer for details!

Specifications guaranteed for Amateur band use only.

TM-742A
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TM-742A/942A
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Kenwood unveils the world's smallest HF transceiver

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HF is going places—thanks to Kenwood's new TS-50S, the smallest transceiver of its kind in the world. Providing high-performance communications with go-anywhere convenience, the TS-50S is your passport to freedom. And whether used for mobile operations and DX-peditions, or in a fixed installation, this rig packs a powerful punch. Maximum output is 100W, and there's a full range of advanced features—including 100 memory channels, DDS with innovative "fuzzy" control, and AIP for superior dynamic range IF shift and CW reverse mode help reduce interference, while a noise blanker improves clarity. For user-friendly operation on the move, there's a multi-function microphone and powerful menu system. And the TS-50S is fully equipped for split-frequency operations. Test drive one today.

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